7TH TIER

NEW EQUIPMENT DIGEST

September, 1955
Volume 20—Number 9

A Penton Publication

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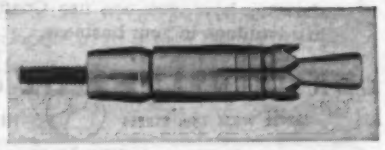
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

STUD-BOLT EXPANSION SHELL
acts as self-drill in masonry



Available in six standard bolt sizes, series 600 stud-bolt expansion shell can be installed with either electric or air hammer for all types of anchoring jobs in concrete and masonry. "Double action" anchor serves both as masonry drill and anchor. Shells are complete with expander plug and bolts, and are ready to use. Maintenance work, sill and stud installations and fixture and machinery anchoring are typical applications. Made by **J. D. Polis Mfg. Co.**, 2908 W. 26th St., Chicago 23, Ill.

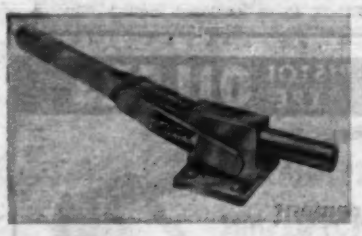
▲ For more details circle NED-1 J5 on enclosed inquiry slip ▲

PIPE HOOK
used alone or in cluster

Handle on the Newco pipe hook eliminates the hazard of crushed hands and speeds moving of pipe. Hook can be used manually when placing pipe in position for welding or connecting. Cluster of two to four hooks can be used on a spreader for loading or unloading pipe. It has a 2½-in. throat opening and 1¼-in. eye. Available from **Newman Mfg. & Sales Co.**, Dept. 125, Box 5939, Kansas City 11, Mo.

▲ For more details circle NED-2 J5 on enclosed inquiry slip ▲

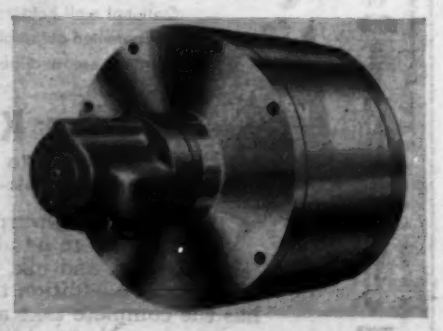
TOGGLE CLAMP
holds with 10,000-lb pressure



This model P-5 Caddy plunger toggle clamp develops a 10,000-lb clamping pressure and a 2 15/16-in. stroke. Of welded construction, it has heavy steel frame and bronze plunger which resists welding spatter. Plunger is drilled and tapped for a ⅝-in.-11 screw. Made by **Erico Products, Inc.**, 2072 E. 61st Pl., Cleveland 3, O.

▲ For more details circle NED-3 J5 on enclosed inquiry slip ▲

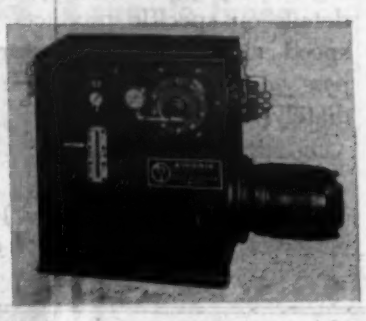
ROTATING HYDRAULIC CYLINDER
usable at speeds up to 3000 rpm



Providing greater force in a smaller space than is possible with conventional air cylinders, this rotating hydraulic cylinder is available in range of bore sizes. It is rated for use on pressures up to 750 psi and at speeds to 3000 rpm. The alloy steel cylinder is balanced for smooth operation at high speeds. Made by **S-P Mfg. Corp.**, Dept. N, 12415 Euclid Ave., Cleveland 6, O.

▲ For more details circle NED-4 J5 on enclosed inquiry slip ▲

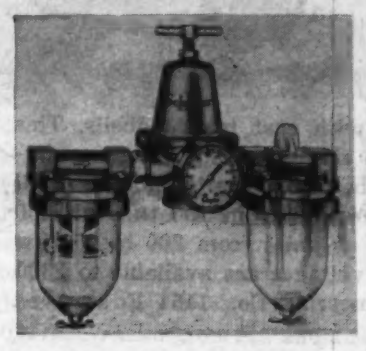
DUAL HYDRAULIC REGULATOR
for edge-position control uses



Two complete and independent hydraulic controllers are mounted in single housing of this Twin Jet regulator for high speed tentering, laminating or any other edge-position control application where two edges are guided simultaneously. It includes a 1-hp motor and a 7-gpm pump. In high speed tentering operations, this unit can operate through a 2-in. bore cylinder and will position the tenter frame guide rails at a rate of 3 in. per second. The pneumatic edge-detecting system does not touch the web and uses extremely low pressure air. It reacts immediately to any change in the web position. Made by **Askania Regulator Co.**, 242 E. Ontario St., Chicago 11, Ill.

▲ For more details circle NED-5 J5 on enclosed inquiry slip ▲

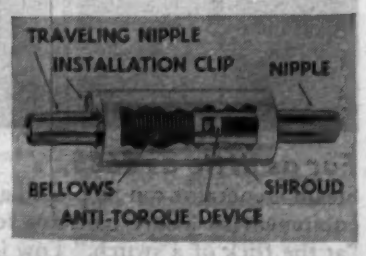
AIR FILTER-LUBRICATOR
regulates air to desired pressure



This Lub-air-ator combination air filter, regulator and lubricator is fully automatic and easily cleaned and serviced without removal from the air pipe line. Filter unit has a large area sintered bronze filter, baffle plate, and drain cock for blowing out water and accumulated foreign matter. Regulator adjusts air flow from 250 psi inlet pressure down to 5 to 125 psi. Lubricator has a vibration-proof adjustment thumbwheel which regulates oil flow from a steady stream down to intermittent drops. Transparent bowl holds 1 pt. Filter, regulator and lubricator are also available as individual units or in pairs for ½, ⅜ and ¼-in. N.P. threads. Made by **Scovill Mfg. Co., A. Schrader's Son Div.**, 478 Vanderbilt Ave., Brooklyn 38, N. Y.

▲ For more details circle NED-6 J5 on enclosed inquiry slip ▲

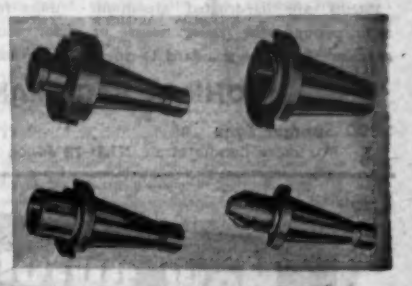
EXPANSION COMPENSATOR
for vertical heat riser lines



Design of the model H Flexon expansion compensator for vertical heat riser lines enables it to be placed in any wall without need for access panels. A built-in antitorque device offers protection against possible damage to bellows element during installation. Device has a two-ply stainless steel bellows as a pressure carrier and is enclosed in a steel housing with steel pipe nipples on both ends. It is available in NPT sizes of ¾ to 3 in., will take pressures up to 150 psi and will absorb line expansion of 1½ in. Ground joint unions or weld ends are also available. Made by **Flexonics Corp.**, 1343 S. Third Ave., Maywood, Ill.

▲ For more details circle NED-7 J5 on enclosed inquiry slip ▲

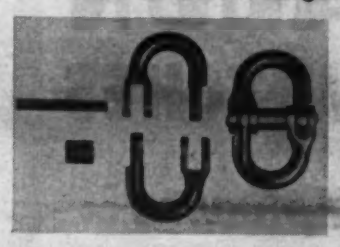
TOOL HOLDERS
for precision machining operations



Added to standard line, these illustrated tool holders include single and double end mill adapters, tang drive tapered socket adapters, drawbar type tapered socket adapters, and shell end mill arbors. Made from selected steel, they permit close-tolerance machining. Made by **Universal Engineering Co.**, Frankenmuth 5, Mich.

▲ For more details circle NED-8 J5 on enclosed inquiry slip ▲

CHAIN COUPLING LINK
for custom slings and assemblies



Pair of body halves, a tubular stud and a hardened alloy steel pin comprise the Hammerlok coupling link, designed for making chain slings and special assemblies. Assembled in seconds, it is locked by a steel pin which "bites" into the steel stud. Link can be disassembled and reused. It is forged from alloy steel and heat treated and will withstand severe usage. Made by **Columbus McKinnon Chain Corp.**, Tonawanda, N. Y.

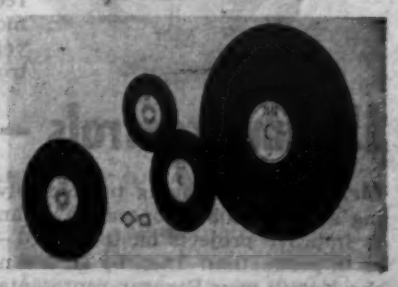
▲ For more details circle NED-9 J5 on enclosed inquiry slip ▲

FOOT-OPERATED VALVE
controls up to 250-psi air pressure

Pressure - balanced, self-aligning valve seat is employed in the model 2800 Shear-Seal foot operated air valve to assure positive control. Of four-way design, it has body which can be rotated in 90-degree increments to facilitate the piping. Any port can be used as the pressure port of this control which is available in ¼ and ⅜-in. sizes. Made by **Barksdale Valves**, Dept. NED, 5125 Alcoa Ave., Los Angeles 58, Calif.

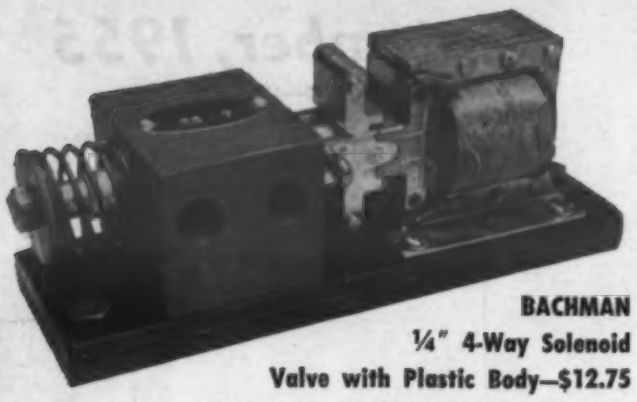
▲ For more details circle NED-10 J5 on enclosed inquiry slip ▲

ABRASIVE CUTOFF WHEEL
cuts masonry, brick, steel, etc.



Double XX resinoid-bonded abrasive cut-off wheel is reinforced with a layer of glass fiber mesh on both sides. Wheel will withstand considerable side strain and pressure. It can be used for cutting such building materials as brick, tile, concrete and steel. Round, diamond, square and universal hole types are available in 6, 7, 8 and 14-in. wheel sizes. Made by **Simonds Abrasive Co.**, 5514 Tacony St., Philadelphia 37, Pa.

▲ For more details circle NED-11 J5 on enclosed inquiry slip ▲



BACHMAN
¼" 4-Way Solenoid Valve with Plastic Body—$12.75

If you are looking for low cost dependability here is a constant duty direct solenoid valve for 200 psi with ¼" orifice—at a price below most hand operated valves. The body is machined from tough canvas base phenolic with ports perpendicular to the laminations.

These valves give millions of cycles of quiet and trouble-free service because the resilient construction *quietly* absorbs the kind of punishment that damages harder materials.

Stems are hardcoated aluminum and permanently resist wear or abrasion. Seals are standard O-rings.

With these units you can operate, check or cushion air cylinders. In air-hydraulic systems they will provide positive check or dwell. Use them for many combinations of manual or automatic control. The valve illustrated is 7" long, weighs 2 lbs. and mounts in any position. Other models have double solenoid and also hand, foot or mechanical actuation. All have ½" stroke with spring return optional.

Let us mail you complete literature or ask us to send you one of these units for a 30 day test and decide for yourself whether this long life leakproof valve can save you money.

JOHN D. BACHMAN & CO.
2300 Sparger Lane • Bristol, Tennessee
▲ For more details circle NED-12 J5 on enclosed inquiry slip ▲

The Parade of Products

Though we are old hands at this business of announcing new industrial products, we are constantly amazed at the flood of news releases we receive every day on new industrial equipment. Sure, some of the machines or equipment are only improved models, but even these incorporate new design, construction or performance ability that enhances their value for our thousands of readers each month. The volume of new equipment, machines, components, materials and processes challenges the ability of any alert executive to keep up with it.

It is NED's fortunate opportunity to be able to screen thousands of new product announcements each month, cull out the more important ones, and then present them to you in brief, concise descriptions. By merely glancing at the editorial columns, you will be able to note those products that are of interest to you. The simple self-mailing inquiry slip enables you to ask for additional details on specific products you need. Our high speed electronic inquiry forwarding service will pass your request on to the manufacturer immediately.

A. N. Gregg
EDITOR

How automatic is your plant?

PARAGON TIME SWITCHES

give you planned ON-OFF control in seconds . . . . . minutes

Preset interval timers with 5-sec. to 30-min. graduations, 5-min. to 20-hour range.

Cycle repeaters with ½-min. to 60-min. graduations, 10-min. to 24-hour range.

hours . . . days or weeks

24-hour On-Off switches with up to 16 operations per day.

7-day calendar dial with individual daily settings, Sunday and holiday cut-off.

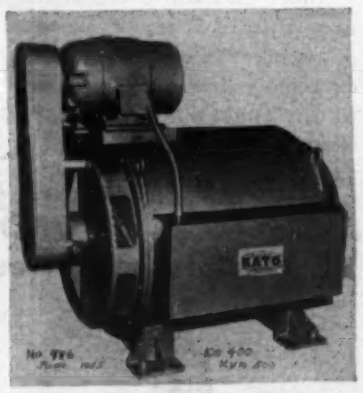
Mr. Engineer: Why depend on pushbuttons and manual control that cause production slowdowns when the job can be *dependably, automatically* and *economically* controlled by Paragon Time controls? Let us recommend the type or model that will solve your specific time-control problem.

15 time controls — 71 models

Mr. Designer: Having trouble solving a time-actuated operation? Want to improve projects on the board—or in production? Then by all means check with your Paragon representative, or write for your copy of the NEW Paragon Industrial Line Catalog.

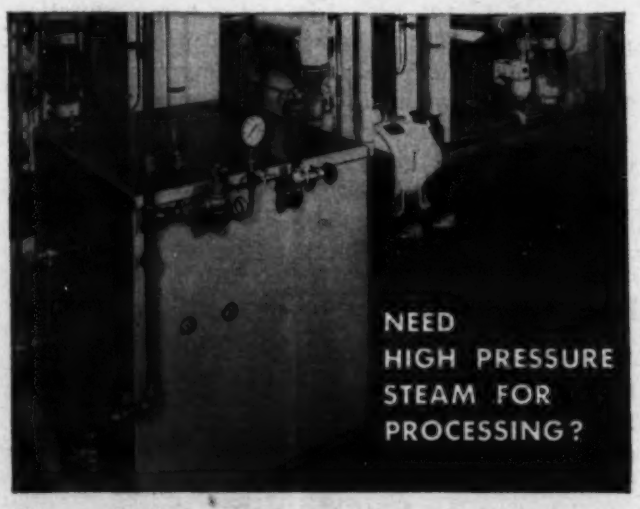
PARAGON ELECTRIC COMPANY
1626 TWELFTH STREET, TWO RIVERS, WISCONSIN
▲ For more details circle NED-13 J5 on enclosed inquiry slip ▲

POWER GENERATORS in standard voltages to 2300 v



Larger series of power generators now makes available units up to 500 kva. Photo shows 1200-rpm, 220/440-v model 92BROR rated 500 kva, 400 kw, three-phase 60 cycles. This unit features an overhead belted exciter. Direct-connected exciter is also available. Generator frame is heavy welded steel with cast iron endbells. This unit is also available in single bearing design, adaptable to standard SAE bell housings. Frame size will also accommodate generators from 150 through 300 kw at 900 rpm as well as units from 200 to 450 kw at 1800 rpm. Standard voltages are available to 2300 v. Made by **Kato Engineering Co.**, 1464 First Ave., Mankato, Minn.

▲ For more details circle NED-14 J5 on enclosed inquiry slip ▲



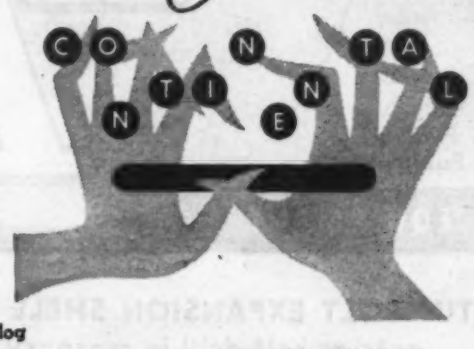
For as little as $685, a Pantex Speedylectric Steam Generator can be placed adjacent to your process equipment to assure constant temperature, dry steam, "at the flick of a switch." Low in first cost and 98½% efficient, the Speedylectric utilizes the electrode principle of generating steam electrically and requires only about one-half the floor space of conventional boilers with equal capacity. 21 sizes, 1½ to 60 Bhp. for operation on 220, 440 or 550v. Write for facts and figures.

Pantex MANUFACTURING CORPORATION
BOX 660Z PAWTUCKET, R. I.
▲ For more details circle NED-15 J5 on enclosed inquiry slip ▲

adding NEW uses daily!

Advantageous new uses are being found for felt daily! It's truly the most versatile of all fabrics for no one has ever been able to tabulate all the functions it so ably performs! There's a Continental Felt for every purpose . . . everywhere in daily life . . . and an even bigger place for felt in your future!

FELT for fashion for industry by *Continental*



Write for Catalog
"Introduction to Continental's Magic Carpet" showing how you can use Continental Felt to advantage in your business.

CONTINENTAL FELT COMPANY, INC. 1885
22-26 WEST 15th STREET NEW YORK 11, N. Y.
▲ For more details circle NED-16 J5 on enclosed inquiry slip ▲

Equal power with fewer belts . . .

NEW BROWNING SUPER GRIPBELTS

Oil proof . . . non-spark . . . heat-resistant

Illustration shows how 20 Browning Super Gripbelts can deliver same power as 30 standard belts, saving space and reducing sheave cost. Improved synthetic cord construction provides far greater strength and safety margin, better grip, less slip. Minimum stretch, maximum flexibility, simplified matching.

Ask your Browning distributor or write us for Bulletin 2019.

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY
▲ For more details circle NED-17 J5 on enclosed inquiry slip ▲

***New* K-P PISTOL TYPE OILERS**

The greatest advancement in pistol type oilers
- Interchangeable spouts and tips
- Complete take-apart
- Each part may be cleaned
- Detachable base or handy holder
- Seamless bottoms, perfect seals

Optional wall holder or new patented detachable non-tip base available.

TAKE APART TO CLEAN IN 30 SECONDS!

THE K-P LINE is a Complete Line 16 models—5 oz. to 1 qt.

Here's the all purpose oiler . . . so designed to handle adhesives, cement, and ink, plus oils and lubricants. In addition the K-P Oiler has the complete take apart feature. No need to throw away clogged oilers anymore.

WRITE TODAY FOR PRICES AND DETAILS

K-P MANUFACTURING CO.
1222 Linden Ave., Minneapolis, Minn.
▲ For more details circle NED-18 J5 on enclosed inquiry slip ▲

NEW APPLICATOR SPREADS DRAWING COMPOUND AUTOMATICALLY

Speeds production, saves 50% on compound, increases die life, reduces scrap loss

THE NEW Lovell compound applicator prepares sheet metal for the drawing press by automatically applying compound to the blanks. It speeds production — no more hand brushing or dunking. No extra help is needed. Because it distributes compound more evenly, it reduces the amount used, up to 50%. This also reduces die damage, cuts scrap loss. Dies last longer, honing time is reduced.

This machine can easily be moved from one press to another on a roll-a-way table. It plugs into the light circuit. Can be attached to a "level rolling" process. Durable Neoprene rolls operate in either direction. For complete story, write us for booklet No. DA1. Lovell Mfg. Co., Erie, Pennsylvania. *Advt.*

▲ For more details circle NED-19 J5 on enclosed inquiry slip ▲

Fp *complete process instrumentation*

FIG. 245 ARMORED PURGE METER

The Fig. 245 all-stainless steel Armored Purge Meter is designed as a rugged, low-cost meter for high pressure purge applications.

- 1500 psi ASA rating
- Suitable for high temperature application
- ½ in. NPT connections
- Available from stock in 25 gph or 80 gph sizes

FISCHER & PORTER COMPANY

COUNTY LINE ROAD • HATBORO 13, PA.

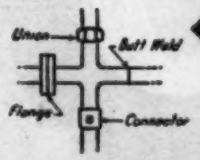
Measuring, recording and controlling instruments
Centralized control systems
Data reduction and automation systems
Chlorination equipment
Industrial glass products

Sales offices in 32 American cities and in principal cities abroad

▲ For more details circle NED-20 J5 on enclosed inquiry slip ▲

THE NEW STANDARD IN PIPELINE ECONOMY

Speedline® STAINLESS STEEL FITTINGS SIMPLIFY PIPELINE DESIGN!



FITTING IS ADAPTABLE . . . YOU SELECT THE TYPE OF JOINT

- Simple layouts require fewer design hours
- Versatility permits reduced inventory
- Expanding feature saves time, money . . . eliminates need for costly tools

Details of the greater design flexibility possible with Speedline Fittings—at lower cost—are contained in this new illustrated catalog. Write for a copy today. There's no obligation.

® SPEEDLINE is a registered Horace T. Potts Co. trademark

Distributors are located in principal cities from coast to coast

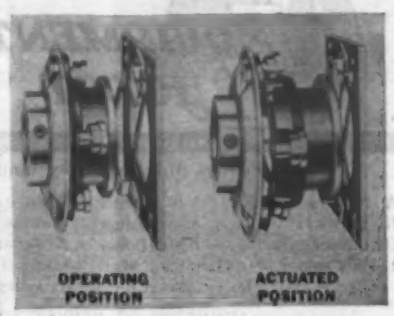
Speedline® STAINLESS STEEL FITTINGS

manufactured by **HORACE T. POTTS COMPANY**

532 East Erie Avenue • Philadelphia 34, Pa.

▲ For more details circle NED-21 J5 on enclosed inquiry slip ▲

CENTRIFUGAL SAFETY SWITCH prevents overloads, under-speeds



Protection against overloads, belt slippage and breakage, and similar dangerous operating conditions is provided by this Syncro-Snap under-speed centrifugal switch. At a predetermined minimum rotational speed, the unit will operate to stop the unit on which it is used. Positive snap action elminates tendency to flutter and provides fast, arc-free opening of the stationary switch contact points. Action is determined by speed only, regardless of voltage or load. Made by **Torq Engineered Products, Inc.**, 1062 Interstate St., Bedford, O.

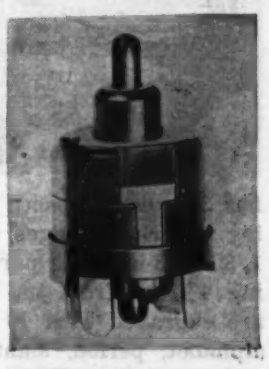
▲ For more details circle NED-22 J5 on enclosed inquiry slip ▲

TAPPING-SCREW TEST KIT offered free, has 12 sample types

To help tapping screw users in selecting the most economical tapping screw for the job, this test kit is being offered free. Kit is contained in 3½ x 6½ x ½ in. cardboard box having 12 compartments. The 12 types of tapping screws provided are representative of types and sizes included in company's complete line. A stock list is included. Kit offered by **Townsend Co.**, Dept. 123, New Brighton, Pa.

▲ For more details circle NED-23 J5 on enclosed inquiry slip ▲

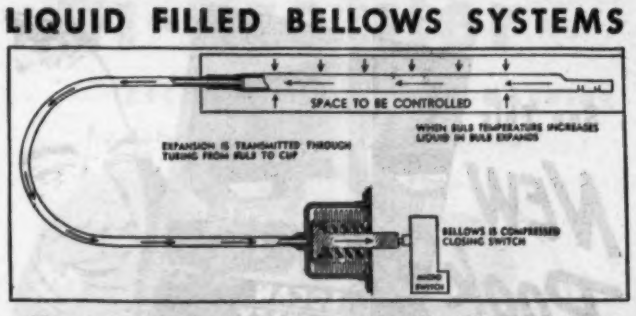
PLUNGER SWITCH actuated by cam, door or knob



A wide variety of switching combinations is possible with this low-cost plunger switch which makes or breaks one or two circuits in sequence and handles up to 20-amp 230-v ac loads. Plunger can be actuated by a cam, door or indexing knob. Having diameter of only 1 1/32-in., device can be grouped so that several switches are operated by single rotary cam drive. Made by **P. R. Mallory & Co.**, 3027 E. Washington St., Indianapolis 6, Ind.

▲ For more details circle NED-24 J5 on enclosed inquiry slip ▲

TEMPERATURE CONTROL WITH LIQUID FILLED BELLOWS SYSTEMS



For remote control of temperature, liquid-filled bellows assemblies provide simple, efficient, direct-acting, low cost systems. Thermal expansion of liquid (selected for each application) moves the bellows with enough force and amplitude to actuate switches and valves directly. They can control temperatures anywhere from —100F to 700F, and provide "one-knob" control over a wide range and at low time constants.

Operating Principle: The liquid-filled assembly consists of a bulb, capillary and bellows. The temperature-sensing bulb is located in the chamber where temperature is to be controlled. The bellows is the active element and, with the switch or valve, may be located anywhere within reasonable distance of the bulb. A capillary tube connects bulb and bellows. The entire assembly is filled with a suitable liquid. As the temperature in the chamber rises, the liquid in the bulb expands through the capillary into the cup, compressing the bellows and actuating the switch or valve.

Clifford will gladly work with you on your temperature control problems. Simply sketch controlling dimensions and specify service conditions. We will help you arrive at a proper, low cost design and produce in quantity to your needs. Write: Clifford Manufacturing Company, 130 Grove St., Waltham 54, Mass. *Division of Standard-Thomson Corporation.* Offices in New York, Detroit, Chicago, Los Angeles and Waltham, Mass. Advt. 7. 5. 5

▲ For more details circle NED-25 J5 on enclosed inquiry slip ▲

Etch Iron, Steel or Their Alloys

IDEAL Electric ETCHERS

Burn a Permanent Mark for
Model Nos.
Hardness Tests
Inventory Data
Gauge of Metal Identifying Tools, Jigs, Dies
Parts Nos.
Sizes
Dozens of Uses

More reliable than tags, far cheaper than special plates. Portable—safe—fast! Repays low cost dozens of times over in time and money saved. "Universal" Model (shown) has 4 etch heats —120 to 700 watts. Other sizes for all sizes of work.

SOLD THROUGH LEADING DISTRIBUTORS

IDEAL INDUSTRIES, Inc.
1032 Park Ave., Sycamore, Illinois
Please send catalog data and arrange free demonstration on IDEAL etcher.
NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

TRY IT OUT!

▲ For more details circle NED-26 J5 on enclosed inquiry slip ▲

SPECIAL INTRODUCTORY UNIT

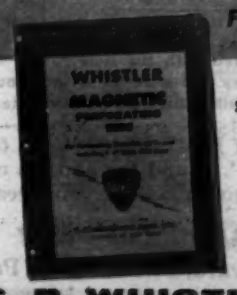
WHISTLER 10 HOLE MAGNETIC PERFORATING DIE

Cut die costs drastically, start production quicker!

This M-12-14 Complete Introductory Unit includes a set of blank templates, ten punches, dies, strippers and punch and die retainers complete to make up a ten hole precision perforating die. Any diameters from ⅛" to ½" to your selection. Catalog illustrates additional re-use economies.

$675 NET F.O.B. OUR PLANT

WHISTLER DIES ARE CUTTING COSTS FROM COAST TO COAST



SEND FOR CATALOG Illustration shows how quick and simple it is to set up a Whistler Magnetic Perforating Die ready for production. Larger standard units can be added to suit your requirements.

S. B. WHISTLER & SONS, INC.

Manufacturers of Adjustable, Magnetic and Custom Built Dies for All Industry

750 Military Road Buffalo 23, New York

▲ For more details circle NED-27 J5 on enclosed inquiry slip ▲

TWEETEN Marker
THE PENCIL OF 1000 USES

MARKS ON ANY SURFACE: "Wet, Dry, Frozen"

- Heavy Plastic Barrel
- Handy Pocket Clip
- Screw Top Feed

3½" Long
Life Refill
Economical

IN BLACK, BLUE, RED, GREEN, YELLOW, WHITE

3½"

ORDER FROM YOUR SUPPLIER
TWEETEN FIBRE CO., INC.
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Chicago 12, Ill.

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FREE! Handy Comparison Chart for metal hardness on all Rockwell and Brinell Scales

LOW COST PORTABLE STEEL HARDNESS TESTER

A compact metal hardness tester for determining the hardness of steel alloys and other metals in the range of from 25 to 65 Rockwell "C" Scale.

CAN BE USED ON STEEL STRUCTURES, TANKS, PIPES, ETC., BY:
✓ MAINTENANCE, FIELD, AND PLANT ENGINEERS.
✓ TESTING OF ALL PARTS OF LARGE DIES AND PUNCHES.

TEST SET INCLUDES:
Micro ball indentor, measuring microscope, standard hardness Test Block, Carrying Case, Instructions.
Write for free hardness conversion chart No. NED-95

Net Price . . $69.00 FOB Factory L. A.

IF NOT IN YOUR DEALER'S STOCK, ORDER DIRECT FROM:
PACIFIC TRANSDUCER CORP.
DEALERS SOLICITED
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4 EASY STEPS TO BETTER PRODUCTION HEAT

1 Call in

the experienced Chromalox Electric Heating Specialist serving your area. He's as near as your phone.

2 Talk over

your heating plans and problems. You'll be given "case histories" of successful applications similar to your own.

3 Work out

the details of your application with the Chromalox specialist. Tell him what you want in the way of results.

4 Follow Through

You'll be more than pleased with the time, money and material savings you'll get with Chromalox Electric Heat.

Send for your copy of F1550—"101 Ways to apply Electric Heat". . . and for address of Chromalox Sales-Engineer serving your area.

EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard, Pittsburgh 8, Pa.

CHROMALOX See other ad on pg. 75 A-4444

ELECTRIC HEAT FOR MODERN INDUSTRY

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NEW EQUIPMENT DIGEST

BPA NBP

Penton Building, Cleveland 13, Ohio

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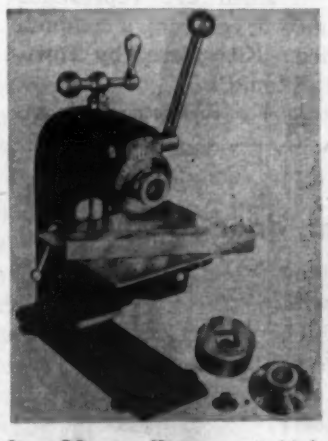
TOOLROOM MARKER
uses engraved character dials



Identification data is precision stamped on die blocks, metal plates, tools, gages, jigs and similar metal parts with this Toolroom Indentor. Uniformity of spacing, alignment and depth are controlled to produce neat, legible marking. Engraved dial makes the mark when actuated by hand lever. Spacing between letters is automatic. The 8 x 10 in. table has 36 equally-spaced ¼-in. tapped holes for mounting fixtures or gages, and machine will accommodate 1/32 to 3-in. thick parts, while throat permits stamping 4⅜ in. from top edge of part. Standard dials are engraved with 40 characters, including complete alphabet, period, slant, dash and numerals from 0 through 9 in 1/16 to 3/16-in. sizes. Special dials can be engraved to order. Made by **Geo. T. Schmidt, Inc.**, 1800 Ravenswood Ave., Chicago 13, Ill.

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See This NEW Book ON TROLLEY CONVEYORS

Write FOR YOUR COPY TODAY!

Of special interest to production officials, this book shows latest developments and applications of Trolley Conveyors. Profusely illustrated, an informative catalog. Whether or not you contemplate using Trolley Conveyors at this time, you will wish to have this book in your files. Write today for your copy — no obligation.

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A Type and Size for Every Need!

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In our CATALOGUE, you'll find the perfect CABINET for your particular requirement, whether it be for small parts storage, handling or display. 750 different combinations can be CUSTOM-BUILT at production line prices.

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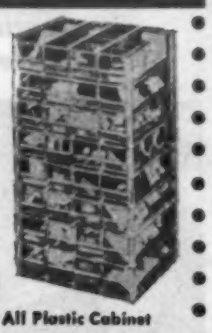
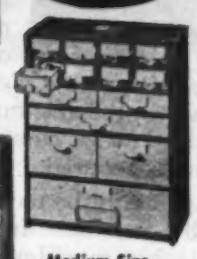


All Plastic Cabinet

Portable Cabinet



Medium Size Plastic Drawers

Medium Size Plastic and Large Steel Drawers

Small Size Plastic Drawers

Send for CAT. JD-53-E

AKRO-MILS, INC. Box 989-E AKRON 9, OHIO

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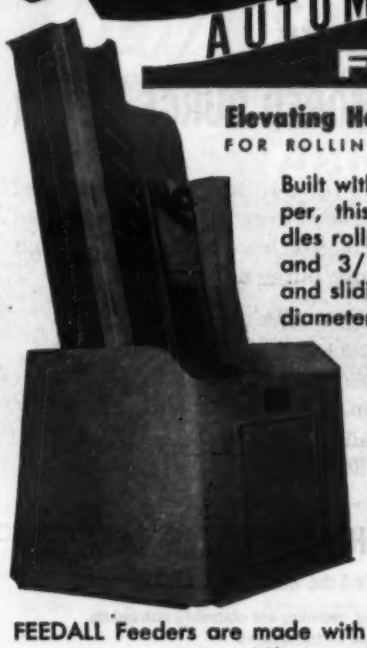
Feed Parts AUTOMATICALLY with FEEDALL



Elevating Hopper Feed No. 2500
FOR ROLLING OR SLIDING PARTS

Built with a large, 6 cu. ft. hopper, this Elevating Feeder handles rolling parts 5" in diameter and 3/16" to 1½" in length, and sliding parts 3/16" to 2" in diameter and up to 6" long.

The Unit features low loading point and variable high delivery point. Delivery rate is also variable. Take-off from the conveyor may be either right or left hand or both.

FEEDALL Feeders are made with Elevating Blade, Rotary or Vibratory Feed.

Why not tell us your feeder problems and let our engineers help you!

FEEDALL INCORPORATED WILLOUGHBY, OHIO

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NEW FLEXIBLE RAPID CUT

ABRASIVE WHEEL

Sensational new flexible abrasive wheel is all abrasive cloth — no fillers. Cuts faster, costs less. For all deburring, finishing, of metal, plastic, wood. All popular grits. Fits any shaft, stationary or portable. Send for sample today. New low prices! Write to:

RAPID CUT ABRASIVE WHEELS
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CALIFORNIA

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WHAT R-B PUNCHES SAVE...

If you use shoulder or set-screw type punches, you have excessive press down-time when replacing worn or broken punches.

But, with R-B interchangeable and standardized punches and die buttons you get quick insertion and removal in the press. The R-B ball lock features, that assure positive radial alignment and vertical locking without further keying, permit greater press utilization.

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ALLIED PRODUCTS CORPORATION
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Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

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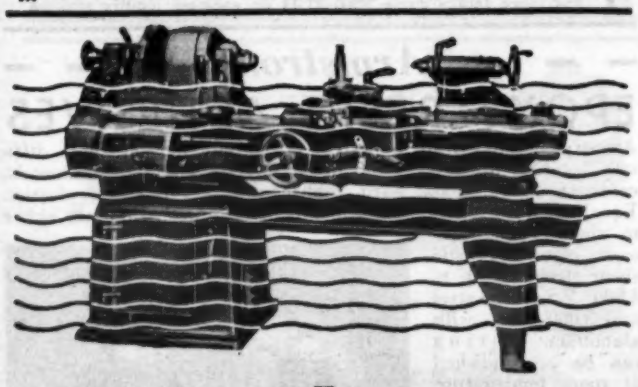

stop vibration

CUT MAINTENANCE COSTS WITH *Westsorb*® ADHESIVE-COATED FELT MOUNTS

Almost any machine in your plant will run smoother and quieter and with longer time between shut-downs if mounted on Vibration-absorbing Westsorb.

Pre-applied to both sides. Peel off protective backings and Westsorb is ready for use. Sticks firmly to any dry surface — NO BOLTS needed.
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Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELT

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LEETRONICS

AC Rotary Solenoid

60 CYCLE

- Produces Rotary Work
- Operates on Standard Voltages
- Eliminates Levers and Linkage
- Variety of sizes—wide torque range
- Vibration-proof; Shock-proof
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LEETRONICS ED-9
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DIVISION OF LEE SPRING COMPANY, INC.

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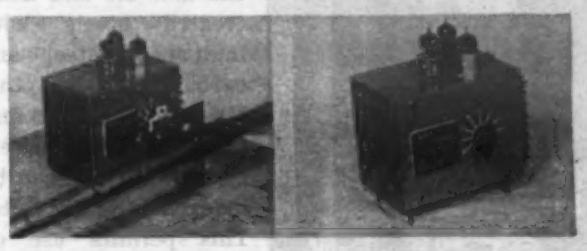
SERVOMECHANISM rotates in discrete steps

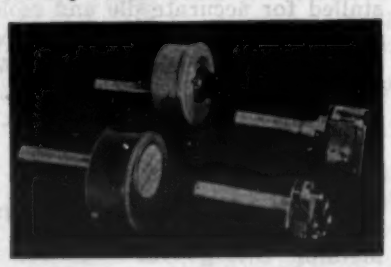
This standard Step-Servo contains a rotary selector switch with a shaft extension which automatically rotates in discrete steps in response to a direct current



signal voltage. Thus, for 1-v input, the shaft rotates to "1 o'clock"; for 2-v, to 2 o'clock, etc. Connections to the switch can be made through external terminals, so that the user has available both a rotating shaft positioner and switch connections through which other circuits can be controlled. Typical applications of this servomechanism are automatic process control, automatic amplifier gain control, automatic parts sorting, automatic over and under voltage control, telemetering and multiplexing. Made by **Bergen Laboratories, 266 Elm St., East Paterson, N. J.**

▲ For more details circle NED-39 J5 on enclosed inquiry slip ▲

SNAP-ACTION THERMOSTATS for heat control, overheat detection



Tailored to individual applications, 20,000 Series of local-bulb snap action thermostats will provide accurate temperature control and overheat detection with electrical loads up to 20 amp. Series offers many combinations of head styles for use in gases, liquids or solids in many types of equipment. Other "building blocks" which vary according to specifications include temperature ranges of 50-300° F, 0-250° F and −50 to 200° F; six types of snap switches; and either threaded-fitting or flange mounting arrangement. Field-adjustable temperature set point and friction locking devices are featured, as is a torsion spring arrangement which allows entire switch to rise under excessive thrusts from actuating rod. Made by **Fenwal Inc., 70 Pleasant St., Ashland, Mass.**

▲ For more details circle NED-40 J5 on enclosed inquiry slip ▲

Speed-Sensitive Switches, Governors

Synchro-Start Products, Inc. — Speed-sensitive switches and overspeed governors are subject of descriptive 8-page bulletin 504S. Piece includes dimensional drawings of overspeed, underspeed, and one, two and three switch governors with explanations of various types of take-offs and connectors.

▲ For more details circle NED-41 J5 on enclosed inquiry slip ▲

THE Di-Profiler

RECIPROCATING HAND MACHINE

for time-saving cutting—roughing—finishing

Variable speed and stroke
Fast, precise, no vibration

An indispensable labor saver for die, tool and mold work, the Di-Profiler has a controlled stroke variable from 0 to 6 mm (¼ inch) and a speed of reciprocation adjustable from 0 to 100 strokes per second.

The Di-Profiler is rapid, precise, easy to operate—simple and sturdy in construction. Its weight of less than one pound and freedom from vibration eliminate fatigue and assure perfect control for the most intricate work.

Moderately priced, the Di-Profiler pays for itself many times through time-saving cost reductions.

Write for free demonstration or illustrated price list DN-955

Tools for every type of work: CUTTERS, FILES, DISCS, POINTS, BURRS, LAPS, SCRAPERS

ENGIS EQUIPMENT COMPANY
Sole Authorized Distributor for the United States
431 S. Dearborn Street, Chicago 5, Illinois

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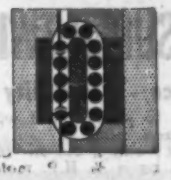
World's First Ball-Bearing

SPLINE!

AVERAGES 40 TIMES LOWER FRICTION COEFFICIENT THAN ORDINARY SLIDING SPLINES!

Radically increases efficiency of transmitting or restraining high torque loads!



The *Safety b/b Spline* can be fitted with integral gears, clutch dogs, bearing and sprocket seats or other attachments for use with electrical, hydraulic or pneumatic units. AVAILABLE IN A COMPLETE RANGE OF SIZES BEGINNING WITH 3/8 IN. DIAMETER. Saginaw Steering Gear Division of General Motors, Saginaw, Michigan. (Dept. 8P)

Write Today For Engineering Data

Safety b/b Spline by Saginaw

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NOW! CONTINUOUS MEASUREMENT OF ROLL SURFACE TEMPERATURES

SPECIFICALLY DEVELOPED for calender rolls, dryer rolls and other moving surfaces used in processing . . . plastics, rubber, textiles, metals, paper, food. Saves steam, reduces waste, improves product quality.

The system consists of an *entirely new type* of measuring head . . . plus a Dynalog *Electronic Recorder or Controller. Minimizes ambient or radiant temperature errors. No scoring of the roll. Operating range: −40°F to +350°F, higher under special conditions. Write for Bulletin 405.

The Foxboro Company, 669 Neponset Avenue, Foxboro, Mass., U. S. A.
*Reg. U. S. Pat. Off.

FOXBORO INSTRUMENTATION
RECORDING • CONTROLLING
INDICATING

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ADAMS creates a Cyclone to give you Drier Compressed Air

The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

Write today for all the facts . . . Get your copy of Bulletin 711.

R.P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

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TUMBLES 3 VARI-SIZED LOADS

at one time

PRICES
$826.00 with Unlined Barrels
$992.00 with Vinyl lined Barrels

RAMPE
Vari-Load
SUPER TWIN

For Speed - Economy - Convenience - Versatility -

this *New Model* SUPER TWIN is a boon to every plant with the problem of tumbling many various sized loads. 3 different sized barrels—5 gal., 1.1 cu. ft., and 2 cu. ft.—are tumbled at one time. Power is furnished by a ¾ H.P. motor thru a variable speed drive.

Barrels can be furnished with vinyl plastic linings.

Write for information. The sooner you write the sooner you can enjoy the advantages of this money and time saving tumbler.

RAMPE MANUFACTURING CO.
14915 Woodworth Ave. Cleveland 10, Ohio

For more details circle NED-47 J5 on enclosed inquiry slip

HOLD IT . . . *Mister!*

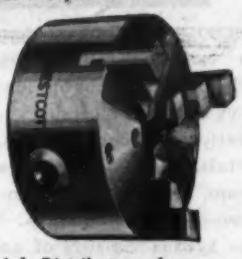
WITH A

WESTCOTT CHUCK

GOOD CHUCKS FOR 80 YEARS

Known for precision quality for most of a Century, Westcott Chucks (with the Red name plate) assure you the same high standards today that have made them famous over the years.

- Precision manufactured on the most modern equipment
- Close tolerance from skilled craftsmanship
- Properly mounted universal chuck will rechuck at .003" T.I.R.
- Many styles and sizes to fit your chucking problem.



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WESTCOTT CHUCK CO.
1200 E. WALNUT STREET ONEIDA, NEW YORK

For more details circle NED-48 J5 on enclosed inquiry slip

When New Molds Stick use IMS SILICONE FLUID

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS
it always pays to try
IMS SILICONE SPRAY

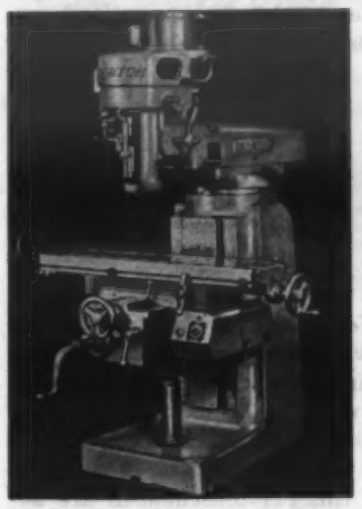
Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

For more details circle NED-49 J5 on enclosed inquiry slip

TURRET MILLING MACHINE
10 spindle speeds range from 80 to 5600 rpm for heavy duty work

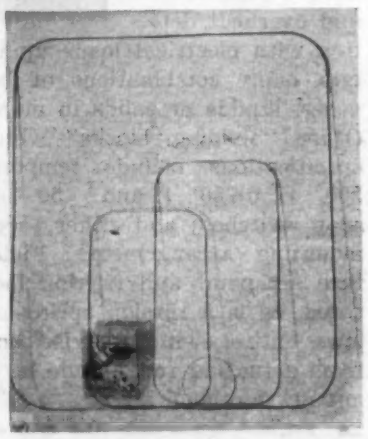


Designed for work in the new die and heat-treated steels with high-speed steel and carbide cutters, this Mastermil milling machine features a turret-type ram which can be indexed 180 degrees. This permits use of high - speed drilling, milling and grinding attachments, as well as a slotter. Machine is powered by 2-hp motor which provides 10 spindle speeds from 80 to 5600 rpm. Vertical spindle travel is 4 in.; longitudinal table travel, 22 in.; and cross travel, 10½ in.

Gorton self-retracting spindle has both hand lever and micrometer down-feed with hand crank. Latter is infinitely variable from ¼ to 8 in. A micrometer depth stop is provided. Unit can be furnished with infinitely variable longitudinal feed to table, a coolant system, and dial indicators and end measuring rods. A duplicator table and tracer head can also be installed for accurate die and mold duplicating. Table size is 10 x 42 in. Made by **George Gorton Machine Co., 1321-BB Racine St., Racine, Wis.**

For more details circle NED-50 J5 on enclosed inquiry slip

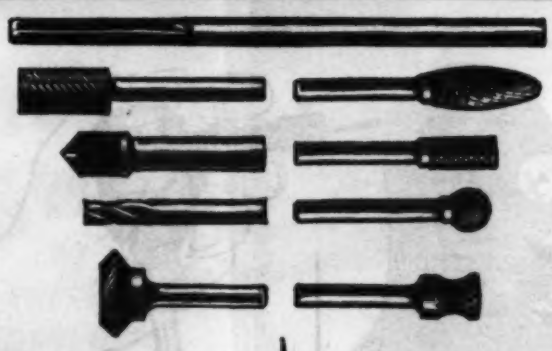
METALLIC O-RINGS
tube-type can be made "square"



Metallic O-rings for static sealing applications have straight sides of varying lengths and selective radii at the corners. Photo shows three such "square" O-rings compared with 8-in. diameter conventional round type. Proper metal or finish plating can be specified for sealing against corrosive liquids and gases at high or low temperatures and pressures. Units shown are made from 321 stainless tubing having 3/16-in. cross section and 0.020-in. wall thickness. Largest ring measures 46½ x 55½ in. Triangular and other configurations are possible. Made by **United Aircraft Products, Inc., Box 1035, 1158 Bolander Ave., Dayton 1, O.**

For more details circle NED-51 J5 on enclosed inquiry slip

ESSEX *Precision* CARBIDE & HIGH SPEED CUTTING TOOLS



CARBIDE TOOLS:	HIGH SPEED STEEL TOOLS:
Burrs	Rotary Burrs
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Reamers	Chatterless Countersinks
Burr Sets	Special Tools
Special Tools	

All H.S. Steel & Carbide Tools salvaged and resharpened
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ESSEX ROTARY FILE & TOOL CORP.
Makers of Fine Tools Since 1868
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For more details circle NED-52 J5 on enclosed inquiry slip

new midget dryer

Small, extremely compact, low cost, efficient, desiccant type automatic dryer that handles gas or compressed air. Specifically made for a wide variety of industrial and laboratory applications for drying small volumes of compressed gases.

write
get full details from

INDUSTROL CORPORATION
468 Westfield Ave., East Roselle Park, New Jersey

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— — — *Armstrong* — — —
EPOXY RESIN ADHESIVES

Armstrong epoxy resin adhesives are formulated for those difficult bonding problems involving such rigid materials as metals, ceramics, wood, glass, hard rubber and thermosetting plastics. Equal results are obtained when bonding these materials either to themselves or to each other. Tensile shear strengths up to 4,500 P.S.I. with steel and 3,000 P.S.I. with aluminum. Curing can be accomplished at room temperature or within one hour at 200°F. with only contact pressure. Standard grades available to meet practically every bonding problem involving the materials mentioned above. Test prove the A-1 as a general purpose adhesive having exceptional all around mechanical properties, or the A-6 formulated specifically for aluminum, copper and copper alloys.

WRITE FOR FREE 16-PAGE BROCHURE. Describes and gives technical data on the complete line of Armstrong epoxy resin adhesives. Also includes information on epoxy resins for potting, casting and laminating work.

SEND FOR TRIAL KIT. Trial Test Kit, shown above, including activators, $1.00 each, F.O.B. Warsaw, Ind. Sent postpaid in U. S. or Canada if remittance accompanies order. Each kit contains a generous portion of a specific grade. Please state application or grade desired.

PRODUCTS OF RESEARCH **ARMSTRONG PRODUCTS CO.**
BOX N-1 • WARSAW, INDIANA

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Ready for mounting . . .

Hackney air receivers

Furnished complete with spuds, saddles or mounting brackets, as you specify. Complete, ready-to-mount Hackney air receivers fit right into assembly line production, swiftly, accurately.

Made from two seamless deep drawn shells jointed by a single weld, heat treated before and after welding. Weld X-ray controlled for soundness. Hackney air receivers meet ASME and other safety codes. Any size from one gallon on up. Vertical or horizontal. Dimensions to meet your design requirements. Write today, or send a sketch.

Hackney **Pressed Steel Tank Company**
Manufacturer of Hackney Products
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Downingtown Iron Works, Inc., Division, 155 Wallace Avenue, Downingtown, Pa.

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

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AVAILABLE IN FOUR TIME RANGES

7 MINUTES
14 MINUTES
28 MINUTES
56 MINUTES
WITH SIGNAL LIGHT
WITH "HOLD" FEATURE if desired

CURRENT RATING: ALTERNATING CURRENT 115 or 230 VOLT, 1/2 H.P. SINGLE PHASE, 10 AMPERES, INDUCTIVE OR NON-INDUCTIVE.

ILLUSTRATED ABOVE:
MODEL T-145W $12.50
T-145 (Less Signal Light) ..$10.50
T-102 (For mounting directly on sheet metal panel)...$ 8.50

CISSELL *Heavy Duty* TIME SWITCHES

Patent Applied for

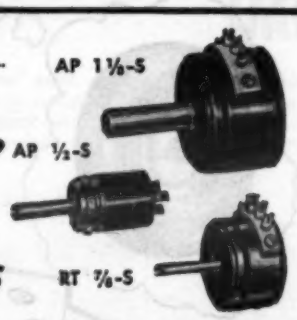
ACCURATE AND DEPENDABLE

More than just a warning device, Cissell Time Switches open . . . or close . . . an electrical circuit at the end of a specified time period. They are adaptable to a wide variety of mountings. GUARANTEED for 1 year.

We welcome an opportunity to prove that we have the answer to YOUR time switch problem. Contact us *now* for detailed information.

W. M. CISSELL MFG. CO., INC.
831 S. First St., P. O. Box 1143
LOUISVILLE, KENTUCKY

▲ For more details circle NED-56 J5 on enclosed inquiry slip ▲



Aerohm Precision *wire-wound* Potentiometers

MICRO-MINIATURE and MINIATURE

Series AP 1/2-S—2 watts continuous at 80° C; resistances 10 to 20,000 ohms, 5% tolerance standard; diameter 1/2", depth 1/2", weight 1/4 ounce; sealed well enough for potting.

Series RT 7/8-S—3 watts continuous at 80° C; resistances 10 to 100,000 ohms; diameter 7/8", depth 3/8", weight 1/2 oz.; standard linearity 2%.

Series AP 1 1/8-S—4 watts continuous at 80° C; resistances 10 to 150,000 ohms; diameter 1 1/8", depth 5/8", wt. less than 3/4 oz.; standard linearity 1%.

All precision-machined, with anodized aluminum bodies, line-reamed phosphor bronze bearings, centerless ground stainless steel shafts, and goldplated fork terminals. Fully sealed and fungus-proofed. Can be processed, on special order for use at 125° C. Aerohm potentiometers are individually checked for quality and performance.

"Lo-TORK" POT LT 7/8 (not shown)

For minimum-torque uses in computer, servo, and selsyn service. Stainless-steel precision ball bearings. Maximum torque is 0.01 inch-ounce. Dissipates one watt at 80° C. Resistances—100 to 100,000 ohms. Weight is only 1/2 ounce. Ganging to six decks; internal clamps hold 7/8" diameter. Standard linearity 0.5%; on special order 0.25%; toroidal winding allows winding angles to 360°; standard 354°.

WATERS MANUFACTURING, inc.
Waltham 54, Massachusetts

▲ For more details circle NED-57 J5 on enclosed inquiry slip ▲

INSTALLED FAST at — LOW COST!

KLIP-BILT STEEL SHELVING

ALL KLIP-BILT CLIPS QUICKLY INSTALLED WITHOUT TOOLS OF ANY KIND

Quick, easy assembly of this unique high strength shelving cuts installation costs to bare minimum . . . provides fastest rearrangement . . . assures least interruption to your operation during erection or disassembly.

Simple Klip-Bilt clips are installed finger tight without tools . . . yet hold all parts pressure tight.

Wide range of standard sizes and accessories carried in stock to meet every storage need.

SHELF CLIP
Holds shelf flange tight against T-Post. Prevents sagging.

PANEL CLIP
Secures back panels to shelf flanges.

DIVIDER CLIP
Provides firm anchorage for shelf dividers.

WRITE FOR FREE CATALOG TODAY!

The FRICK-GALLAGHER MANUFACTURING CO.
112 S. MICHIGAN AVE., WELLSTON, OHIO
BRANCH OFFICE: 250 S. Broad Street, Philadelphia 2, Pa.
Specialists in Storage Planning and Manufacture of Storage Equipment.

▲ For more details circle NED-58 J5 on enclosed inquiry slip ▲

ROTARY SOLENOID usable on 110-v 60-cycle ac

Possessing all the desirable force characteristics of linear solenoids, this rotary solenoid is designed for alternating current use. Standard electrical rating is 115-v 60-cycle ac, but other voltage and frequency ratings as well as direct current types are available. The pure rotary movement of the shaft simplifies application. Eight basic sizes provide a wide range of forms, offering torque values from fractional to 62.5 lb-in. at maximum stroke. Intermittent duty models for higher torque values are available. Stock models give 20, 30 and 45-degree rotation, and rotation up to 60 degrees can be provided as special. Made by **Lee Spring Co.**, Leetronics Div., Dept. 41, 30 Main St., Brooklyn, N. Y.

▲ For more details circle NED-59 J5 on enclosed inquiry slip ▲

FOLDING INDUSTRIAL LADDER combines four ladders in one unit

Unusual design of this Porta-Fold industrial ladder combination enables it to be made into a flexible A-frame or step ladder, a straight ladder or a sturdy scaffold all from one portable unit. Ladders are constructed from 1/8-in. aluminum channel with selected hardwood rungs and rung supports. Sections are joined with cadmium plated steel hinges, and cross braces are aluminum angle fastened with wing nuts. The A-frame or step ladder conversion stands 7 ft 2 in. high; the straight ladder stands 14 ft 10 in. high; while scaffold conversion is 3 ft 6 in. high and about 8 ft long. Safety base feet are furnished, and a stabilizer attachment is available. Ladder folds into a 41 1/2-lb unit measuring 9 1/2 x 15 x 44 in. Made by **United Roofing Co.**, 525 N. Alvarado St., Los Angeles 26, Calif.

▲ For more details circle NED-60 J5 on enclosed inquiry slip ▲

Relays

Magnecraft Electric Co. — Relays for practically any industrial application are detailed in 12-page illustrated catalog No. 55. Application information is given on ac and dc telephone type, subminiature dc, improved latch-in, bifurcated contact, miniature, time delay, plug-in and snap-action relays in open, hermetically sealed and dustproof enclosed types.

▲ For more details circle NED-61 J5 on enclosed inquiry slip ▲

SEND FOR TRIAL SIZE ONLY 50c

- Makes and keeps belts soft and pliable
- Pliable belt "clings" to "surface" of pulley
- Dissolves hard "glaze" that makes belts slip
- Only belt preservative that has met and passed U. S. Government Tests and Requirements
- Sold with money-back guarantee since 1896

Cling-Surface Company, Inc.
1045 Niagara Street • Buffalo, New York

Please send me TRIAL SIZE can of Cling-Surface "50" Belt Preservative. 50c is enclosed.

Name.....
Title.....
Company.....
City.....State.....

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WEBB *hand pushed* TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530 TROLLEY
1/2 Ton Capacity
4" to 12" I-BEAM

Write for Bulletin No. 453:

JERVIS B. WEBB CO.
Conveyor Engineers and Manufacturers
8921 ALPINE AVE. • DETROIT 4, MICH.
Offices In Principal Cities

▲ For more details circle NED-63 J5 on enclosed inquiry slip ▲

DRAGERT'S SILI KOOL HEAT-RESISTANT PAINT

DEFIES TEMPERATURES UP TO 1600°-F

NOW . . . red-hot metal surfaces — *stacks, boilers, engines, manifolds, mufflers, exhausts, hot air pipes, etc.* — may be effectively protected against corrosion, rust, oxidation, and other deterioration with SILI-KOOL. This Silicone-base, aluminum wonder paint has been rigidly *pre-tested* to withstand temperatures up to 1600°-F. Yet SILI-KOOL costs less than any other Silicone-base, heat-resistant paint.

But don't take our word for it. PROVE IT TO YOURSELF WITHOUT SPENDING ONE CENT. Send today for free literature or a sample can. No cost; no obligation.

Having supplied industry efficiently for 25 years, we will now be delighted to serve you too.

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Please send ☐ FREE literature and prices on SILI-KOOL
☐ FREE testing sample of SILI-KOOL

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Company_____
Address_____City & State_____

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Nose need DUST PROOFING ?

YOU NEED . . .
DUPOR No. 1

The miniature nose mask that is as handy as a pair of glasses. So light, less than 1 ounce. So convenient it can be worn while smoking, eating, talking. Amazing 9 sq. in. filter. Vest pocket size. Can be carried, ready for use instantly. Write for details! Send $1.20 today for sample!

H. S. COVER, SOUTH BEND, IND.
P. O. Box #2508
"Respirators for Industry since 1894"

▲ For more details circle NED-74 J5 on enclosed inquiry slip ▲

ONE of these PERMITE ALUMINUM PAINTS is *BEST* for *YOUR ROOF!*

PERMITE ASPHALT Heavy-Bodied ALUMINUM

Permite Asphalt Heavy-Bodied Aluminum roofing paint contains *double* weight pigment that gives *double* protection against all destructive elements . . . whether the surface is asphalt, bituminous, metal or masonry. Reflects up to 85% of all light and heat rays which are destructive to roofing life; cuts heating and air conditioning costs.

PERMITE "3-A" ROOF COATING

Aluminum, Asbestos and Asphalt—the three best protective agents known—are combined in Permite "3-A" Roof Coating. Forms a thick blanket-like coating over built-up, bituminous, or other roofing materials. Yields easily to stress and strain, without chipping or cracking . . . absolutely blocks out moisture . . . stops roof overheating and deadens noise.

Write for bulletins and name of nearest Permite Distributor

ALUMINUM INDUSTRIES, Inc.
Permite Paint Division *Cincinnati 11, Ohio*

▲ For more details circle NED-75 J5 on enclosed inquiry slip ▲

LOW COST INDUSTRIAL INCINERATOR

BURNS TRASH SAFELY OUTDOORS

New 12 bushel capacity burner provides safe and efficient outdoor refuse disposal at low cost. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing bits of paper. Intense combustion burns damp, green or dry refuse to fine ash in any weather. Minimizes smoke and smell. Needs no watching. Won't blow over. Ends refuse hauling and fire hazards. Safe for use within 10 feet from out buildings. Satisfaction guaranteed. Only $68.95—F.O.B. Cleveland. Immediate shipment. Send purchase order, today.

SPECIFICATIONS

- *Stands 5' high x 36" square at base — lifts off 10" high ash pan.*
- *12 bushel burning capacity*
- *Made of Armco rust-resistant aluminized steel (molten aluminum bonded to steel).*
- *Complete with ash pan base and grate.*
- *Needs no auxiliary fuel.*
- *Shipped completely assembled—weight 165 lbs.*

ALSTO COMPANY
Dept. NED 9 • 4007 Detroit Ave. • Cleveland 13, Ohio

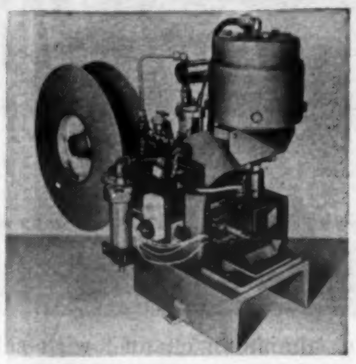
▲ For more details circle NED-76 J5 on enclosed inquiry slip ▲

ROLLOVER LOADER
simplifies emptying of kegs, boxes

Transfer of small parts from cumbersome shipping boxes or kegs to inplant containers is simplified with this NesTier Rollover Loader. Full box or keg with lid removed is first slid into loader. Rotation of unit on pivot trunnions causes parts to flow into a pouring spout which is equipped with hinged retaining gate. Control lever permits metering of parts into tote boxes, handling baskets, corrugated bins or containers resting on scales. A NesTier stand with a short roller conveyor is available as an accessory. Loader is welded from 10-gage steel and is balanced for easy rotation even by female workers. Models are made to accommodate all sizes of shipping containers by **Chas. Wm. Doepke Mfg. Co.,** 8884 Blue Ash Rd., Rossmoyne, O.

▲ For more details circle NED-77 J5 on enclosed inquiry slip ▲

TERMINAL ATTACHING MACHINE
self-soldering unit is redesigned



Improvements made in Etco self-soldering terminal attaching machine include an in-line feed system which produces a precise flow of continuous strip terminals furnished on disposable reels. In single operation, machine automatically crimps, solders and cuts off these electric terminals. New electric solenoid trip on air feed to assure positive control, thermostatically controlled heating element and foot treadle control are other improvements. Machine can attach from 10,000 to 15,000 terminals in a day. Made by **Patton-MacGuyer Co.,** 16 Virginia Ave., Providence 5, R. I.

▲ For more details circle NED-78 J5 on enclosed inquiry slip ▲

Multiple Rotary Slitting Lines

Yoder Co.—Multiple rotary slitters, uncoilers, recoilers, scrap choppers and coil cars are featured in revised 76-page booklet on "Multiple Rotary Slitting Lines." Book also contains information on considerations in choice and operation of coil and sheet slitting lines; analysis of slitting cycle with time studies for different speeds, coil sizes and weights; operating cost and savings possible by use of special equipment for loading and unloading coils; slitting narrow strands; protecting highly finished strip; and advantages of small slitters.

▲ For more details circle NED-79 J5 on enclosed inquiry slip ▲

BUSCHMAN PORTABLE PRESS-TENDER

• PRESS TO PRESS
• PRESS TO TOTE BOX
• PRESS TO CONVEYOR

Featuring fast one-man positioning and adjustment, the BUSCHMAN powered belt Press-Tender eliminates costly manual handling . . . adds profits to press room operation.

Operating angles of the Press-Tender are variable from 13° to 48° and working heights are adjustable both front and rear. Adequate capacity for any press is assured by belt speed of 72 feet per minute.

Durable in construction and stable in design, the BUSCHMAN Press-Tender is available in models and sizes for use with any size or type of press.

For complete specifications, send today for Bulletin B150.

PRODUCE MORE FOR LESS
Buschman Conveyors
THE E. W. BUSCHMAN CO.
4482 Clifton Ave. • Cincinnati 32, Ohio

▲ For more details circle NED-80 J5 on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster PORTABLE **Hardness Testers** FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available
WEBSTER INSTRUMENT INC.
DEPT. N, 11856 Mississippi Ave. Los Angeles 25, California.

▲ For more details circle NED-81 J5 on enclosed inquiry slip ▲

HUNTING FOR THE RIGHT WHEEL... AT THE RIGHT PRICE?

You'll find it when you specify Goddeyne! Goddeyne wheels give you low initial cost . . . extra long service life . . . proven performance. That's why they are used extensively on materials handling equipment, farm implements, mowers, super market carts and hundreds of other applications where rugged service is vital. Whatever your needs, it will pay you to get the facts before you buy. Write today for your copy of Goddeyne Wheel Catalog No. 53!

SALES REPRESENTATIVES: Our recent expansion program has created a number of openings for qualified sales representatives. Valuable territories are now available. Write for full details, and enclose brief resume of background and lines handled.

- PRESSED STEEL WHEELS
- WELDED CONSTRUCTION
- BOLTED CONSTRUCTION
- SEMI PNEUMATIC TIRES
- SOLID RUBBER TIRES

GODDEYNE WHEEL PRODUCTS
1306 N. McLELLAN STREET BAY CITY, MICHIGAN

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1. Write now for a free sample part with a cost summary.
2. Our free bulletin also illustrates 40 small stampings.
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WLS STAMPING COMPANY
3287 E. 80th ST. • CLEVELAND 4, OHIO

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J-5

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ADDRESS .....

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Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

To Use this Self-Mailer . . . Just Fill It In, Fold, Seal and Mail . . . No Postage Needed

To Use this Self-Mailer . . . Just Fill It In, Fold, Seal and Mail . . . No Postage Needed

VER-T-RACK

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- GREATER SAFETY FACTOR
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT — 63¼" LENGTH: 35"
WIDTH: 24" CAPACITY: 1 TON

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on **VER-T-RACK**

THE VINCE BASNIK CO.
2020 Center St., Dept. N. Cleveland, O.

▲ For more details circle NED-84 J5 on enclosed inquiry slip ▲

PLASTURBO
MOLDED NYLON BLOWER WHEELS

More Efficient, Less Noise, LESS COST!

Featherweight — yet stronger and more durable. Less unbalance—require less starting torque—are ample reason to purchase Plasturbo Blowers. Injection molded from Du-Pont nylon with machined aluminum hub integral assuring quiet operation and long life.

Send for samples of sizes now available. Prints and quotations furnished on request.

MAMCO SWITCHES
Single pole—single throw, 6 Amps. 125 Volts

MAMCO COILS
Built to your specifications

MAMCO BLOWER UNITS
Manufactured to your needs

MAMCO MOTORS
Stock or custom built. Write for complete brochure on motors and motor sets today.

Master APPLIANCE MFG. CO.
RACINE, WISCONSIN

▲ For more details circle NED-85 J5 on enclosed inquiry slip ▲

PYREX
GAUGE GLASS & CYLINDERS

furnished in any length or finish

- For fast service on Pyrex Tubular Gauge Glass, contact Swift! We can supply Tubular Gauge Glass or Cylinders from stock in any length or finish . . . 2 mm. O.D. to 7" O.D. . . . for chemical, pharmaceutical or industrial applications. Write, wire or phone for immediate delivery.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC., ELMIRA, N.Y.
330 Tenth St., San Francisco 3 • 140 Boylston St., Boston 16
807 Mateo St., Los Angeles

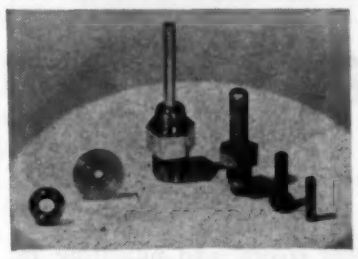
▲ For more details circle NED-86 J5 on enclosed inquiry slip ▲

PORTABLE DUST COLLECTOR
in 400 to 1000-cfm capacities

This Dust-Pak portable, package-type dust collecting system is suitable for use in small installations or on isolated machines in large plants. It is offered with casters where mobility is desired. Units extract dust and other particles from the air by combination of centrifugal separation and filtration. Standard throw-away filters are used. Heavy particles are separated from air and deposited in drawer at base of unit. Capacities range from 400 to 1000 cfm. Made by **Schmieg Industries, Inc.**, 23632 Sherwood, Detroit 34, Mich.

▲ For more details circle NED-87 J5 on enclosed inquiry slip ▲

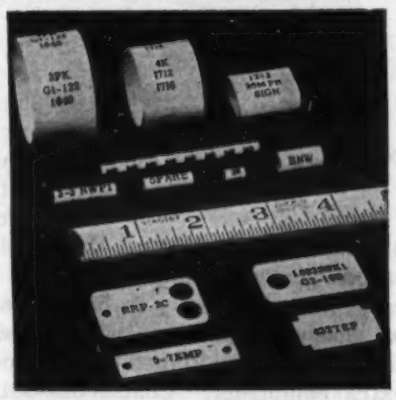
TEMPERATURE PROBES
have high output for testing



When used with TME bridge network, these high resistance (20,000-ohm) temperature probes provide 5-v output signal without amplification for as little as 150° F temperature change. Varied configurations are available for measuring fluid, surface, structure, air, hydraulic line, cylinder head and subminiature component temperatures. Made by **Arnoux Corp.**, Dept. ND-4, Box 34628, Los Angeles, Calif.

▲ For more details circle NED-88 J5 on enclosed inquiry slip ▲

PLASTIC SLEEVE & TAGS
for marking of cables and pipes



Circular - sleeve and flat tags for identification marking of all sizes of wires, and cables, piping and similar systems are now available from newly-formed company department. The all-plastic tags are of permanent construction, clearly legible and resist oil, grease, dirt and dampness. Tags are produced to customer specifications under various plastic coloring and printing processes. Variety of shapes is offered for special coding. Made by **Allegheny Plastics, Inc.**, Rt. 51 & Thorn Run Rd., Coraopolis, Pa.

▲ For more details circle NED-89 J5 on enclosed inquiry slip ▲

THE 3XP TYPE **RAYONIC®** CATHODE RAY TUBE BY **Waterman**

The 3XP type RAYONIC CATHODE RAY TUBES have made possible more sensitive oscilloscopes with greater trace brilliance, without increasing present anode potentials. Waterman tube engineers pioneered a new approach to cathode ray tube design in developing this type tube. That research has paid off in a tube that provides a light output four times greater, and vertical sensitivity twice as great as comparable cathode ray tubes operating the similar anode potentials. All this has been accomplished without sacrificing low interelectrode capacities. These characteristics make the 3XP ideal for high frequency video work as well as low repetitive operation. Because of its unique shape and size, the 3XP lends itself readily to multi-tube oscilloscopy. The 3XP is available in P1, P2, P7, and P11 Phosphors.

OTHER WATERMAN RAYONIC TUBES INCLUDE
3JP1 & 3JP7 JAN CR TUBES
3MP1, 2, 7, 11 CR TUBES
3SP1, 2, 7, 11 CR TUBES
SEND FOR COMPLETE DATA TODAY

WATERMAN PRODUCTS
WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.

▲ For more details circle NED-90 J5 on enclosed inquiry slip ▲

specify standard

FLEXLOC® SELF-LOCKING NUTS

FLEXLOC	one-piece, all-metal construction	lock and stop nut in one
DESIGN	resilient locking segments	every thread carries its full share of load
FEATURES	controlled locking torques	

DO YOU KNOW? Because they are of one-piece, all-metal construction, FLEXLOCS can be used in temperatures to 550° F. Nuts lacking this design feature have more restricted temperature ranges and applications. And FLEXLOCS are stocked in a full range of sizes from #4 to 2" by authorized industrial distributors. Write for Bulletin 866. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-91 J5 on enclosed inquiry slip ▲

Hammerlok®
COUPLING LINK

MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Made by the makers of Herc-Alloy, the original alloy steel chain. Write for instruction folder.

CM HOISTS AND CHAIN

COLUMBUS McKINNON CHAIN CORP.
TONAWANDA, NEW YORK
Regional Offices:
NEW YORK • CHICAGO • CLEVELAND
In Canada: McKinnon Columbus Chain Ltd., St. Catharines, Ont.
HERC-ALLOY®

▲ For more details circle NED-92 J5 on enclosed inquiry slip ▲

PUMP
CORROSIVE AND OTHER LIQUIDS
SAFE
FAST AND CONVENIENT

FOR CARBOYS, BARRELS AND DRUMS
BY HAND
Type A 2-3 gpm
BY FOOT
Type FH 3-4 gpm

A smooth flow of liquid starts and stops quickly. All parts in contact with liquid are corrosive resistant. No dangerous pressures. Relief valve.

FREE! Write for big 64 page illustrated catalog describing and pricing hundreds of safety products.

ORDER TODAY
ORDERS SHIPPED ON OPEN ACCOUNT

With lead tube for sulphuric, hydrochloric, hydrofluoric, etc.
HAND PUMP TYPE A $14.25
FOOT PUMP TYPE FH $15.75

With Saran flexible tube for nitric, phosphoric, acetic, etc.
HAND PUMP TYPE A $15.75
FOOT PUMP TYPE FH $17.25

GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.
SAFETY EQUIPMENT FOR EVERY HAZARD

▲ For more details circle NED-93J5 on enclosed inquiry slip ▲

The New P&S 1500 OUTLET

Quick, Easy Wiring Cuts Costs 4-5c Per Installation!

Screwless Terminals—Just strip wires and insert in wire holes. A firm push anchors wires securely. No wire loops to make . . . no screws to turn down. An 8 penny nail inserted in center hole on either side releases the spring to remove wires.

Double Grip Contacts—Double phosphor bronze spring contacts exceed "pull" requirements of Underwriters' Laboratories . . . vibration won't loosen. Perfect long line contact with a minimum of heat means long life.

Trouble Free—Strap runs through outlet and is fastened at each end, producing a "dead" or completely insulated back for greater safety. No live parts are exposed. Conforms to Federal Specification W-R-151-a.

P&S 1500
P&S 1500-I (Ivory)

Listed as approved by Underwriters' Laboratories Inc.

For complete information write Dept. NED-3

PASS & SEYMOUR, INC. • SYRACUSE 9, N. Y.

▲ For more details circle NED-94 J5 on enclosed inquiry slip ▲

Weather Sleet Splash PROOF

MERCOID PRESSURE CONTROL

AVAILABLE IN 17 PRESSURE RANGES FROM

0-30" VAC. TO 300-2500 PSI.

WITH THE SENSITIVITY YOUR APPLICATION REQUIRES

Conforms to Nema specifications 1A (semi-dust tight), 2 (drip tight), 3 (weather resistant, weather proof, splash proof, sleet proof, moisture resistant and rain tight), 4 water tight (hose test).

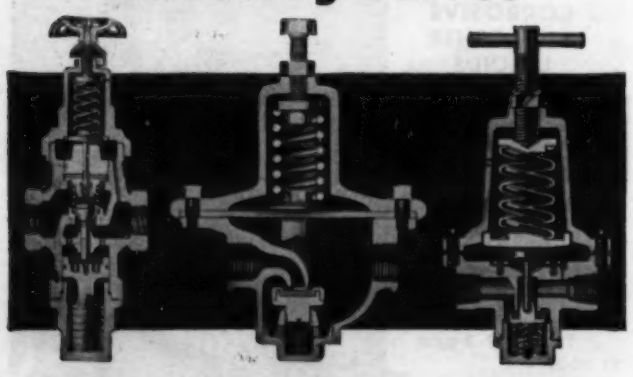
The cover provides for visible inspection of the sealed Mercoid mercury contact and the calibrated dial. Adjustments are external.

WRITE FOR BULLETIN 14 PW

THE MERCOID CORPORATION
4201 BELMONT AVE., CHICAGO 41, ILLINOIS

▲ For more details circle NED-95 J5 on enclosed inquiry slip ▲

MASONEILAN PRESSURE Reducing Valves



No. 11 No. 227 No. 71

For Accurate Control of . . .

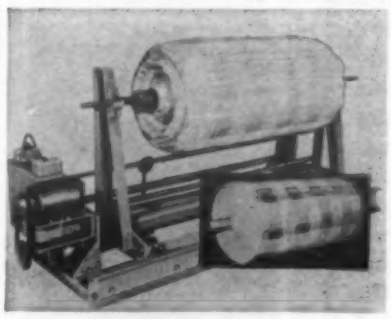
- ☐ STEAM PRESSURES
- ☐ AIR PRESSURES
- ☐ WATER PRESSURES

Write for catalog or call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1189 ADAMS STREET, BOSTON 24, MASS., U. S. A.

▲ For more details circle NED-96 J5 on enclosed inquiry slip ▲

ROLL GUIDING UNIT assures evenly wound rolls of stock

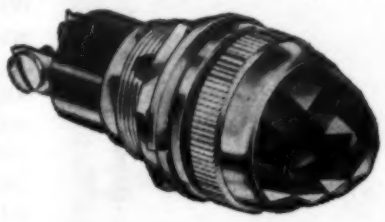


Placed in front of any machine or processing unit using rolled stock, this let-off guiding unit will provide evenly-wound rolls of cloth, paper or plastic batched materials. When set to line of selvage or edge of travel, a sensing device actuates automatic guiding unit electrically which, in turn, moves carriage to keep material running straight and smooth. Made by **Hermas Machine Co.**, 333 Royal Ave., Hawthorne, N. J.

▲ For more details circle NED-97 J5 on enclosed inquiry slip ▲

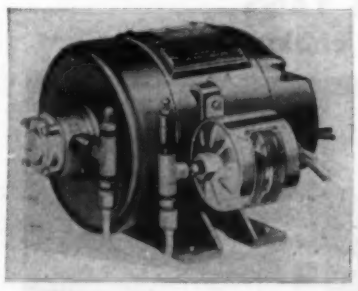
OIL-TIGHT INDICATOR LIGHT for pilot and control applications

Compact design is feature of this series of Oil-Tight pilot lights for severe industrial service. They have oil-resistant gaskets, selection of several shapes of omnidirectional glass lenses, disks with letters or numbers inserted behind flat glass lenses to deliver specific messages, wide choice of incandescent or neon lamps, choice of lens colors, and mounting in either 1 13/16 or 1-in. clearance hole. Made by **Dialight Corp.**, 64 Stewart Ave., Brooklyn 37, N. Y.



▲ For more details circle NED-98 J5 on enclosed inquiry slip ▲

MOTOR-PUMP UNIT delivers 550 cu in. air per minute



Compact model RG-10470 is integral motor-driven air pump that is readily adaptable to process or machine requiring air pressure to 20psi. Common shaft transmits motor power to pump rotor and sliding blades. Self-lubricating thrust plates and blades of carbon-graphite composition take up wear automatically. Rated capacity is 550 cu in. per minute at 20 psi discharge pressure with standard sea level inlet conditions. Lear-Romec dehydrators are available as extra equipment. Continuous-duty motor is 1/6-hp 3450 rpm unit that operates on 115-v single-phase ac. Made by **Lear, Inc.** Lear-Romec Div., 1440 Abbe Rd., Elyria, O.

▲ For more details circle NED-99 J5 on enclosed inquiry slip ▲

Every casting that shows up defective during machining costs you money. Wellman eliminates this wasteful inefficiency at its source. Skilled craftsmen and modern inspection techniques insure a minimum of defective castings. And if required, Wellman's X-ray inspection facilities assure 100% sound castings. Contact Wellman today for your non-ferrous castings requirements.

Well-Cast MAGNESIUM, ALUMINUM AND BRONZE CASTINGS

Well-Made WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.
Dept. 15, 12800 Shaker Boulevard Cleveland 20, Ohio

▲ For more details circle NED-100 J5 on enclosed inquiry slip ▲

HOMER

"Space Saver" MAGNETIC CONVEYORS

the modern method of handling ferrous parts

SAVE FLOOR SPACE . . . CUT LABOR COSTS . . . SPEED PRODUCTION

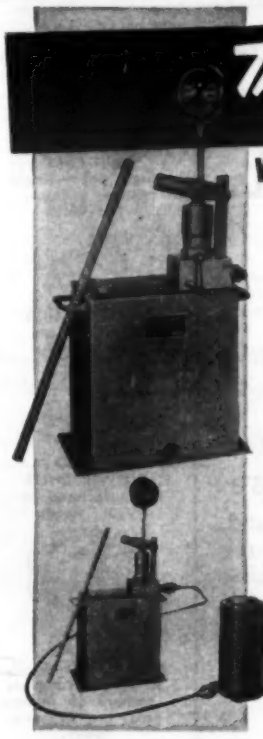
- Convey ferrous parts and pieces such as nuts, bolts, nails, washers, tin cans, bottle caps, stampings, scrap, etc., up inclines as steep as 90°.
- Pick up from floor level.
- Permit close grouping of machinery to save valuable floor space.
- Automatically stack flat pieces, feed machines and perform other handling operations formerly requiring manual effort.
- Can be synchronized for multiple machine operation in automated production lines.
- Portable and stationary types in standard or custom units for new or existing production lines.

WRITE TODAY FOR BULLETIN MC-101

THE HOMER MANUFACTURING CO., INC.
DEPT. 1-25 LIMA, OHIO

▲ For more details circle NED-101 J5 on enclosed inquiry slip ▲

They're Rugged!



Watson-Stillman Hand Pumps and Hydraulic Jacks

W-S Pumps are available with maximum pressure deliveries of 3,000 to 10,000 psi. Single and double plunger type . . . can be mounted on any size reservoir. Use with light oil, water with soluble oil or plain water. Excellent for operating hydraulic tools, jacks, presses and other hydraulic equipment . . . and for general hydrostatic testing.

W-S Hydraulic Jacks with independent pumps are used for many construction and maintenance jobs. Jack is connected to pump by flexible copper tubing . . . Ideal for operation in inaccessible or dangerous locations. Capacities . . . 20 to 500 tons.

Write today for Bulletin A-5.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

1A

▲ For more details circle NED-102 J5 on enclosed inquiry slip ▲

TINNERMAN SPEED GRIP® NUT RETAINERS

THE MOST ADVANCED METHOD

STANDARD—Eliminate welding, clinching, staking, hole misalignment and paint clogging! SPEED GRIPS are easily attached by hand. "Mechanical hands" hold nut in bolt-receiving position.

OF ATTACHING SQUARE NUTS

SELF-ANCHORING—Contains a special locking feature for permanent retention. High-torque holding power. Rattle-proof, cannot be dislodged even with abusive handling.

TO SHEET METAL PANELS . . .

"J" TYPE—Snaps over panel edges by hand; ideal for blind locations. Self-retained in bolt-receiving position. Extrusion in retaining leg assures constant alignment.

Write for Bulletin No. 335

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12 CLEVELAND 1, OHIO

▲ For more details circle NED-103 J5 on enclosed inquiry slip ▲

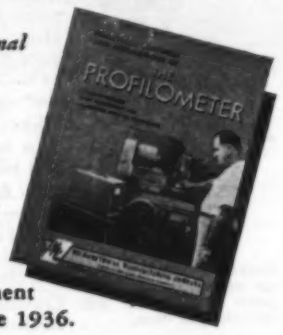
In Production and Inspection

THE PROFILOMETER®

can help you

SAVE BIG MONEY!

- Gives a *quick, positive check* of surface roughness, *at the machine.* Lets you tell *for sure* whether parts are to specification. *Helps avoid over-finishing.*
- Permits *closer SIZE control,* all along the line.
- Helps you find and eliminate *unnecessary operations* (you may be surprised!).
- Shows impending *dimensional* errors *before they occur!*



FREE BULLETIN LT89 gives details on these and other money-saving uses. Also describes operating features. Write for it — today!

THE PROFILOMETER — leader in roughness measurement throughout the world . . . since 1936.

Profilometer is a registered trade mark.

MICROMETRICAL MANUFACTURING COMPANY
333 S. MAIN ST. ANN ARBOR, MICH.

For more details circle NED-104 J5 on enclosed inquiry slip

for extra mileage

Extra mileage, that means so much to your production costs, is assured by *Jewel Brand* Abrasive Belts because . . . (1) there is a *Jewel Brand* Belt in the precise size and grit to meet your specific needs whether you grind, smooth, or polish metal, wood, plastics, leather, or rubber; (2) Jewel Brand Abrasive Belts all feature the unique velvet joint that lasts longer; (3) their faster, cleaner, cooler cutting action is time-proven on the job. What's more, AP delivery service excels. Try it. Abrasive Products, Inc., 525 Pearl St., South Braintree, Mass.

JEWEL BRAND *coated* **ABRASIVES**

For more details circle NED-105 J5 on enclosed inquiry slip

DICTAPHONE'S Time Master recording and playback mechanism requires a quiet, dependable motor. "First call" is given to Loyd Scruggs 4-pole shaded pole, "specification tailored" motor.

Dictaphone is only one of leading manufacturers specifying Scruggs Motors. Write Loyd Scruggs Co., Festus, Missouri, for a sample motor built to your specifications, without obligation.

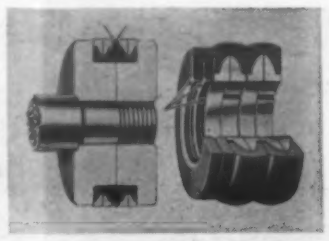
You can stake your reputation on SCRUGGS MOTORS

THE *Loyd Scruggs* COMPANY
FESTUS, MISSOURI

MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

For more details circle NED-106 J5 on enclosed inquiry slip

ROD & PISTON PACKINGS for air and hydraulic service



Addition of a new chamfer on the wiper surfaces of the sealing rings is improvement made in Monopak hydraulic and pneumatic rod and piston packings. Chamfer prevents ring extrusion and resultant braking action under heavy pressure. Change also provides an efficient trap for minute foreign matter that might escape the rod cleaning device. Made by **Hydraulic Accessories Co.,** 24303 Hoover Rd., Van Dyke, Mich.

For more details circle NED-107 J5 on enclosed inquiry slip

ROTARY JOINT introduces fluids to rotating parts

Introduction of fluids under pressure from stationary source to rotating equipment is made possible by line of Standard fluid transfers. Units are easily adapted to O.E.M. requirements and readily attach to existing equipment. Typical uses are transferring coolant to gun drills and the introduction of pressurized fluids to cylinders or clutches on hydraulic equipment. Fluid pressures range up to 1000 psi, and shaft speeds can be up to 10,000 rpm. Shielded, prelubricated bearings and balanced pressure seals are featured. Made by **Sealol Corp.,** 203 Post Rd., Providence 5, R. I.

For more details circle NED-108 J5 on enclosed inquiry slip

ETCHED CIRCUIT KIT will aid prototype development

Prototype development of etched-wire printed circuit models can be done with aid of this etched circuit kit which contains latest information, materials and methods for adapting products to this medium. Kit provides assortment of XXXP copper clad phenolic laminate, including double as well as single surfaced boards. Printed circuit tube sockets of ten different types and multicontact printed circuit connectors are also contained in kits. Industrial-laboratory kit with hinged lid plastic box shown in photo sells for $27.00. Kits ranging in price from $3.75 to $47.00 are offered. Latter, most extensive kit furnishes a silk screen process. Offered by **Techniques, Inc.,** 137 Belmont St., Englewood, N. J.

For more details circle NED-109 J5 on enclosed inquiry slip

For more details circle NED-110 J5 on enclosed inquiry slip

AURAND

CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away **SCALE RUST PAINT**

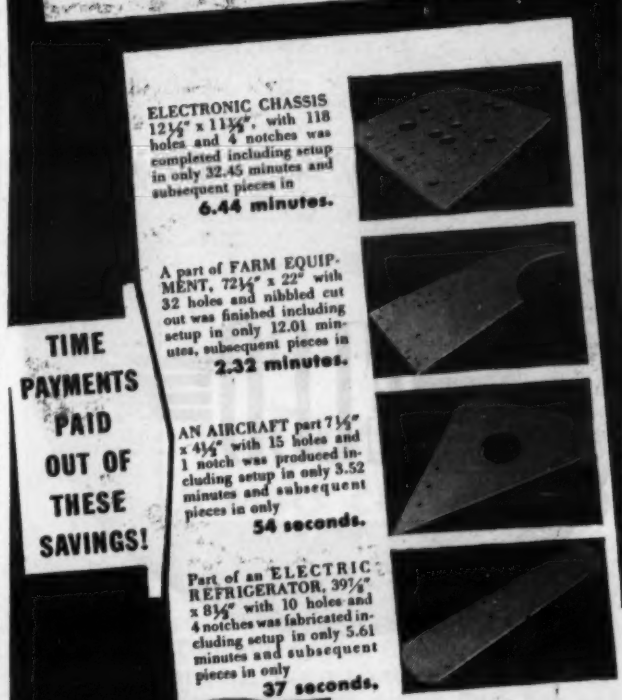
Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for the money-saving facts.

AURAND MFG. & EQUIP. CO.
1210 Ellis St. • Cincinnati 23, Ohio

For more details circle NED-111 J5 on enclosed inquiry slip

Announcing
PAY-AS-YOU PRODUCE PLAN WITH WALES Fabricators



Specialists in Punching and Notching Equipment

● CHECK the difference between your present methods of production to make the above parts and the typical astounding time studies produced on Wales Fabricators, *the only machine of its kind.*

Designed for rapid interchangeability of punches and dies for hole punching, notching and nibbling operations, Wales Fabricators permit working direct from blueprints or operation sheets . . . *no templates required.*

Write today for complete information on Wales Fabricator Pay-As-You-Produce Plan that more than pays for itself out of savings.

WALES-STRIPPIT CORPORATION
George F. Wales, Chairman
563 Payne Avenue, North Tonawanda, N. Y.
(Between Buffalo and Niagara Falls)
Wales-Strippit of Canada, Ltd., Hamilton, Ontario

For more details circle NED-112 J5 on enclosed inquiry slip

STRIKE!

Hannifin's New Square Type Air and Hydraulic Cylinders Are Right "Down Your Alley"!

Every Engineer will want data on these two new lines of cylinders incorporating the BIGGEST IMPROVEMENT IN CYLINDER DESIGN IN THE LAST 50 YEARS!

WRITE FOR

BULLETIN 113
Hydraulic Cylinders 2000 p.s.i.—3000 p.s.i. (non-shock)

BULLETIN 213
Fluid Power Cylinders 200 p.s.i. (air or oil)

HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Illinois
Air and Hydraulic Cylinders • Presses • Air Control Valves

▲ For more details circle NED-113 J5 on enclosed inquiry slip ▲

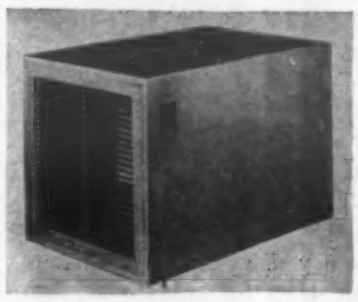
"ELCO SCREWS ARE GOOD SCREWS ...ASK A MAN WHO HAS USED THEM"

- WOOD SCREWS
- MACHINE SCREWS
- MACHINE SCREW NUTS
- TAPPING SCREWS
- THREAD-CUTTING SCREWS
- PHILLIPS AND SEMS SCREWS
- PIPE PLUGS
- STOVE BOLTS
- CAP SCREWS
- LAG SCREWS
- DRIVE SCREWS
- SPECIAL SCREWS
- COLD HEADED PRODUCTS

ELCO TOOL AND SCREW CORPORATION
194 BROADWAY, ROCKFORD, ILLINOIS

▲ For more details circle NED-114 J5 on enclosed inquiry slip ▲

MICRO-DUST COLLECTOR
removes dust, dirt, lint and fumes

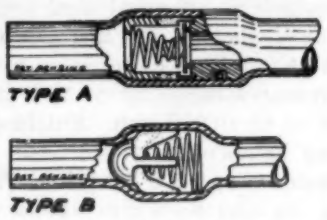


Minute particles as small as 1/1,000,000-in. are reportedly removed by this Dust-Sorb dust collector. Usable in laboratories, instrument assembly rooms and other locations where dust, dirt, lint and fume particles must be eliminated, this self-contained unit operates on 110-v ac and is time switch controlled. It has capacity of 500 cfm which is sufficient to change air in 20 x 10 x 10 ft room every four minutes. Non-overloading fan is employed, and serrated filter has over 28 sq ft of surface. Cost is under $200. Made by **Suttle Equipment Co.**, Suite 618, 135 S. LaSalle St., Chicago 3, Ill.

▲ For more details circle NED-115 J5 on enclosed inquiry slip ▲

CHECK VALVE
adaptable for gas or liquid service

Designed for medium and low pressure applications, these fluid check valves are adaptable for gas and liquid service. Type A is usable where leakage and cracking pressure are critical. It has hand lapped seat, precision ground and polished disk and a low, rigidly controlled cracking pressure. Type B is usable where cracking pressure may be higher, and is adaptable for use as a restrictor. Valves are available with soldered, flare or other fittings in sizes from capillary through 1-in. OD. Made by **M C D Mfg. Co.**, 3218N Barker Ave., New York 67, N. Y.



▲ For more details circle NED-116 J5 on enclosed inquiry slip ▲

POWER RESISTORS
are miniature 20-watt units

Designed for use in compact electronic and other equipment, type 20S Ministrip miniature power resistor is rated 20 w on 300°C temperature rise. Stock resistance values range to 50,000 ohms. It has strong oval-shaped ceramic core on which alloy resistance wire is wound and silver brazed to tightly-banded tab terminals. Winding is sealed and protected by Vitrohm vitreous enamel. Nonremovable brass brackets extend through the core and provide ease of mounting. Made by **Ward Leonard Electric Co.**, 51 South St., Mt. Vernon, N. Y.

▲ For more details circle NED-117 J5 on enclosed inquiry slip ▲

Another NEW! Low Cost ROWE ADJUST-A-DOCK

For safer, faster and more efficient dock handling
- Low initial, installation and operating cost
- Simple and easy installation
- Dependable trouble-free service

ADJUST-A-DOCK MODEL NO. 20 N.F. (Non-Floating)
- 20,000 capacity
- Dependable hydraulic power unit
- Rugged bridge design
- Automatic push button control

Get details today. Write for your free copy of the ROWE brochure.

ROWE METHODS, INC.
2534—I DETROIT AVENUE CLEVELAND 13, OHIO

▲ For more details circle NED-118 J5 on enclosed inquiry slip ▲

BUY A BALANCED PACKAGE

...for heating and dispensing melted compounds.

• When you choose your next compound melting or dispensing tank, be sure you buy a balanced package.

At Sta-Warm, you will find help in selecting just the right tank, kettle or pot to meet your requirements. Careful analysis will assure you that the unit you order will embody exactly the right accessories to make the tank perform as you expect it to. Factory testing before shipment adds a final check to insure proper functioning of the unit as soon as you hook it into your production line.

Dependable Sta-Warm 50 gal. compound melter with power driven agitator and molasses gate valve.

These Sta-Warm advantages result in a BALANCED UNIT in which you can place your confidence.

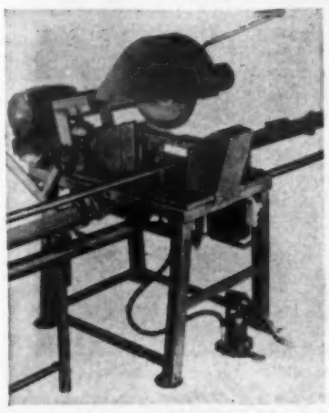
For *heating, melting, conveying* or *dispensing* compounds in large or small amounts . . . be sure you choose a well balanced packaged unit bearing the name "STA-WARM".

Outline your current problem in an inquiry to the factory today.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

▲ For more details circle NED-119 J5 on enclosed inquiry slip ▲

EVERY SHOP OR FACTORY SHOULD HAVE AT LEAST ONE ABRASIVE CUTTING MACHINE



You get the results with abrasive machining. The right combination of machine and wheel will make cutting cleaner and faster than you can get with any blade-type saw.

"Why do Abrasive Cut-Off Wheels Fail Sometimes?" A 40-page well illustrated book on abrasive cutting. Simple, practical. Send $1. cash or stamps.

NEED HELP? PHONE NOW!

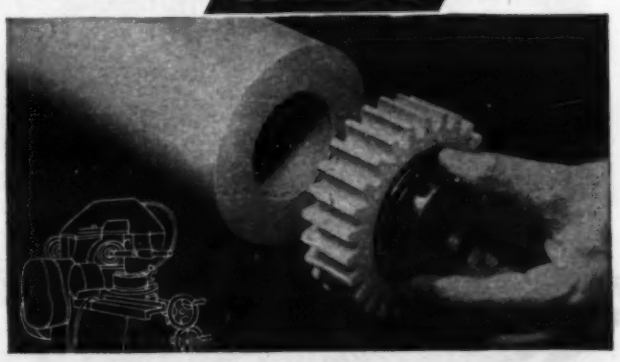
Call us, COLLECT, BUckingham 1-1700.

Ask for Fred Alexander, our sawman.

WALLACE SUPPLIES MFG. CO.
1312 Wolfram St., Chicago 13, Ill.

▲ For more details circle NED-120 J5 on enclosed inquiry slip ▲

POLYPENCO® NYLON SHAPES



Save with nylon tubular bars!

- Get nylon's advantages economically in gears and rollers by making outer sections from tubular bars.
- Make bearings, bushings, packings, and other wear parts with minimum waste of nylon.
- Use metalworking tools . . . and high tooling cost.
- Sizes from 2" to 10" O.D. with ⅜" to 1½" walls.
- Uniform high quality . . . technical help.

SEND FOR NEW BULLETIN ON NYLON SHAPES

The POLYMER CORPORATION of Penna. • Reading, Penna.
In Canada: Polypenco, Inc., 2052 St. Catherine W., Montreal, P.Q.

POLYPENCO NYLON
...teflon* and other non-metallics

Stocks: Boston • Buffalo • Chicago • Cleveland • Dayton • Detroit
Los Angeles • Minneapolis • Montreal • New Haven • Reading • St. Louis • Toronto
*trademark for DuPont tetrafluoroethylene resin

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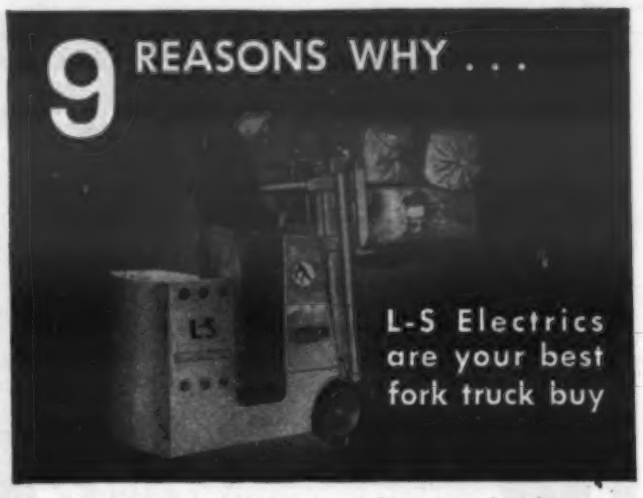
9 REASONS WHY . . .



1 Electric power gives 3 times longer life than gas trucks
2 Lubricated-for-life — never need greasing — absolutely no under truck adjustments
3 ¼ the operating and maintenance cost of gas trucks
4 Magnetic controls — no clutch . . . operate one lever to change speed and direction
5 Standrive operating position for faster, safer, more comfortable forward and reverse operation
6 Center control and one-step high, thru-truck aisle for safe, convenient mounting
7 Travel speed up to 6 MPH for maximum safe speed
8 40 FPM lift speed (with full load), 50 FPM lowering speed
9 Capacities through 4000 lbs. (48" load length)

Get all the facts . . . write today for L-S SpaceMaster Electric Catalog 321

LEWIS-SHEPARD
179 WALNUT ST., WATERTOWN 72, MASS.
"The Master" line

▲ For more details circle NED-122 J5 on enclosed inquiry slip ▲

I'M SOLD ON Kleenslot

They're Rugged, Dependable, and give Long Life Performance

The screen guard is built into the screen and the guard bars permit only the finer particles to pass over the screen. This item can be furnished in special sizes to your requirements in practically any type of long wearing metal.

Complete literature is available. These screen guards are non-clogging, non-blinding, and are strong, rigid, uniform and extremely economical.

Wedge-Wire CORPORATION
GAS STREET AT NICKLE PLATE R. R., WELLINGTON, OHIO

▲ For more details circle NED-123 J5 on enclosed inquiry slip ▲

BOSTITCH AIR-DRIVEN HEAVY DUTY STAPLER

Model C67AD

POWERFUL Drives staples with far greater force, faster and with less effort than is possible with hand-operated machines.

FAST One-hand, trigger operation. Loads quickly with ¼", ⅜" or ½" staples.

3 MODELS Available with 3 types of clinching blade: "C" blade and "openhead" blade for sealing overlapped flaps of corrugated containers, and straight blade for ordinary stapling.

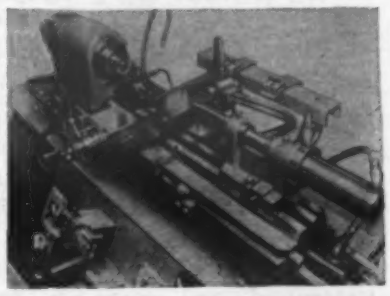
Write for Bulletin 272. BOSTITCH, 689 Mechanic Street, Westerly, R. I.

FASTEN IT BETTER AND FASTER WITH

BOSTITCH
STAPLERS AND STAPLES

▲ For more details circle NED-124 J5 on enclosed inquiry slip ▲

HYDRAULIC TRACER LATHE for short run or production jobs



This completely hydraulic tracer controlled copying lathe is used to machine small parts in single or production quantities. Machine has 11-in. swing, 17 in. between centers and 13-in. carriage travel. Duplicator cross feed is 1½ in. Spindle drive is by countershaft clutch-brake assembly designed for instant starts and stops. An air-operated collet closer and a tailstock working from single selector valve are featured as well. Made by **Elgin Tool Works, Inc.,** Dept. P, 1770 Berteau Ave., Chicago 13, Ill.

▲ For more details circle NED-125 J5 on enclosed inquiry slip ▲

VIBRATION-DAMPING MOUNT capacities are from 250 to 3000 lb

Bonded rubber lattice members of this machine and equipment mount provide a high degree of vibration and noise isolation, particularly in the low-frequency high-amplitude range. It is available with capacities of 250 to 3000 lb, with static deflections of ¼ to 1½ in. Mounts are easy to install in existing equipment, and the damping characteristic of the elastomer stops excursion of machinery when passing through resonance in starting or stopping. Shock load is carried by the rubber in shear to provide a high degree of horizontal stability. Made by **Lord Mfg. Co.,** Dept. F, 1635 W. Twelfth St., Erie, Pa.

▲ For more details circle NED-126 J5 on enclosed inquiry slip ▲

FOOT-POWERED PUMP for hydraulically actuated equipment

Controlled by two simple pedals, model 1004-50B foot-actuated pump supplies ample power to operate many types of hydraulic units. One pedal supplies hydraulic pressure at any desired level up to 7000 psi, and the other serves as a power release and throttle control. Pump is of two-stage dual piston type. It produces a volume of 0.1553 cu in. per stroke and potential pump discharge is 50 cu in. Made by **Columbian Vise & Mfg. Co.,** 9023 Bessemer Ave., Cleveland 4, O.

▲ For more details circle NED-127 J5 on enclosed inquiry slip ▲

Now... a new Temperature Indicator-Controller by Fenwal

Fenwal's new *Series 540* is a remote Temperature Indicator-Controller that combines low cost with high accuracy over a range of 100° to 700°F. Designed for a wide variety of processing equipment, the new controller operates on a liquid-filled bulb and capillary system, with a bellows transmitting reponses to the indicating pointer. Setting pointer and bulb temperature pointer indicate against the same scale face, permitting "glance" comparison of both readings at a distance. Accuracy is maintained to within 3% over the 100°-700°F range. An adjustable differential can be varied between 0.8% and 4% of scale range. For details, **write for Bulletin MC-122. Fenwal Incorporated, 89 Pleasant Street, Ashland, Mass.**

Fenwal Controls Temperatures ... *Precisely*

▲ For more details circle NED-128 J5 on enclosed inquiry slip ▲

5411

"ONE MAN CREW"

When you see PORTELVATOR (R) (the handy Hamilton portable elevating table) doing the lifting and moving jobs which previously required the combined strength of three or more husky men you will know why so many present users call it a "one man crew."

(Prices start at $135.00*)
Get one—and start it to work in your operation.

WANT THE COMPLETE FACTS? Write for Bulletin No. 5411—Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A **Hamilton Tool**
USE IT WITH CONFIDENCE

*Prices subject to change without notice.

▲ For more details circle NED-129 J5 on enclosed inquiry slip ▲

HOW MUCH CAPACITY do you need in a VACUUM CLEANER?

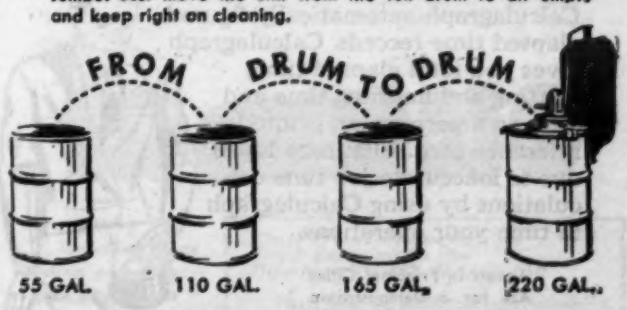
THE **TORNADO®**

JUMBO CONVERSION GIVES YOU ALL YOU NEED

No matter what capacity you need in an industrial vacuum cleaner, the Tornado Jumbo Conversion is your answer. It's a powerful Tornado suction motor unit with a filter bag and cover plate that fits any standard 55 gallon drum you may have or can buy locally.

Tornado's powerful suction (air speeds up to 325 M.P.H.) picks up dust, dirt, chips or liquids with equal ease. Available in ¾, 1 or 1½ H.P. sizes at very reasonable prices. What's more, the motor unit removes to become a powerful portable blower for cleaning motors or machinery.

No need to stop working to empty the tank with a Tornado Jumbo. Just move the unit from the full drum to an empty and keep right on cleaning.

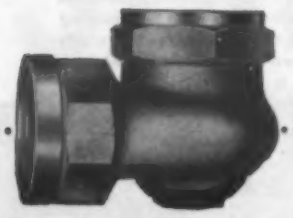


WRITE FOR TORNADO BULLETIN 694 TODAY!

BREUER ELECTRIC MFG. CO.
5116 North Ravenswood Avenue • Chicago 40, Illinois

▲ For more details circle NED-130 J5 on enclosed inquiry slip ▲

SPRAYING SYSTEMS CO.

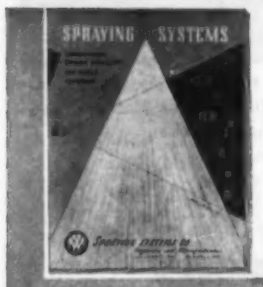


for lower cost

and better performance

SPRAY NOZZLES

Modern design. Precision machining. All materials. Thousands of standard industrial spray nozzle types and sizes to choose from. Years of proved experience at your service.



write for this great new catalog today

Ask for our new 48 page Catalog No. 24 . . . the most comprehensive spray nozzle catalog ever produced. Yours for the asking.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

For more details circle NED-131 J5 on enclosed inquiry slip

CALCULAGRAPH

keep tabs on costs

-with ACCURATE job time records

CALCULAGRAPH

figures elapsed time accurately

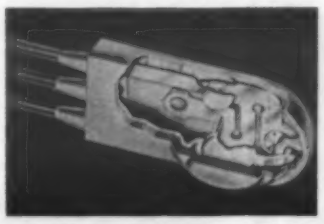
Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Agents in Principal Cities
Ask for a Demonstraton
Call or Write Dept. 302

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

For more details circle NED-132 J5 on enclosed inquiry slip

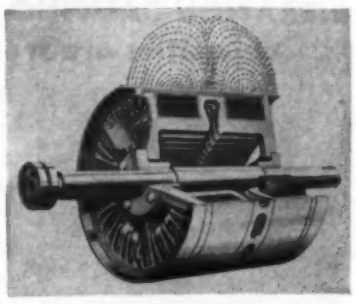
SNAP-ACTION SWITCH
handles up to 20-amp loads



Offered in normally-open, normally-closed or three-wire types, this snap-action switch is housed in a Kel-F plastic case and is acidproof. It will also withstand attack by dust, oil, water, dirt, shock and vibration. Made in accordance with Army specifications covering waterproof and corrosion resistant construction, switch is rated 20 amp on 28-v dc and 10 amp on 110-v ac resistive loads. Made by **Control Products, Inc.**, 306 Sussex St., Harrison 12, N. J.

For more details circle NED-133 J5 on enclosed inquiry slip

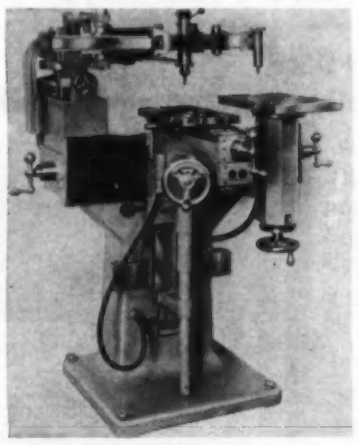
ELECTRO-MAGNETIC PULLEY
features two-coil design



The two-coil design of this electro-magnetic pulley for removing tramp iron on conveyor operations produces highly effective flux pattern with a deep magnetic field at center of pulley. In many applications the two-coil pulley will handle the same work as a larger three-coil unit. Pulley is offered in variety of widths and diameters ranging from 12 to 60 in. Made by **Stearns Magnetic, Inc.**, 653 S. 28th St., Milwaukee 46, Wis.

For more details circle NED-134 J5 on enclosed inquiry slip

PANTOGRAPH-MILLING MACHINE
engraves, profiles, die-cuts, mills



Full three-dimensional pantograph - milling can be done on model 3A Panto-Miller, a versatile tracer controlled production machine for engraving, profiling, die cutting and milling. Pantograph ratios vary from 1:1.5 to 1:10, and cutter and tracer heads can be transposed for making enlarged reproductions. Spindle speed is infinitely variable from 1000 to 12,000 rpm. Work table measures 8 x 14 in., while copy table top is 10½ x 16 in. Latter swivels 360 degrees. Made by **Johnson & Bassett, Inc.**, Production Tool Div., 114 Foster St., Worcester, Mass.

For more details circle NED-135 J5 on enclosed inquiry slip

Spend 25% Less
AND DOUBLE YOUR MATERIALS HANDLING EFFICIENCY!

When materials handling and hauling distances grow past a certain point, rider-type trucks are more practical than the operator-led type. The end-control low-lift Transveyor, for example, will move as much goods per 8 hour shift as two 4,000 lb. operator-led trucks—carry it 50% faster, at approximately 40% lower operating costs. Yet one Transveyor costs 25% less than the 2-operator-led trucks it displaces.

Pallet type illustrated—also available in platform model.

Why not find 'out what the Transveyor can do for you? No obligation. Just write for

FREE BOOKLET & FOLDER

Ask for the new Transveyor data folder and booklet, "*Materials Handling Cost-Cutter.*" Write TODAY.

Automatic
WORLD'S LARGEST EXCLUSIVE BUILDERS OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS
61 W. 67th Street, Dept. P5, Chicago 28, Illinois

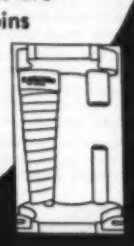
For more details circle NED-136 J5 on enclosed inquiry slip

MAJOR AIRCRAFT MAKERS SAVE $954,000. ON DIES EQUIPPED WITH

ELASTICONE
GUIDE PIN COVERS

The facts speak for themselves and show how all industries are now reducing costs of die programs by using Elasticones for closing the gap between pins and bushings, protecting dies against breakage, reducing the need for spare dies. *Low costing* Elasticones are available to fit most pins and bushings.

Write for complete literature and technical data.



CENTRAL Safety Equipment Co.
6607 MARSDEN ST. PHILADELPHIA 35, PA.

For more details circle NED-137 J5 on enclosed inquiry slip

Get Your Free Copy of this PUMP BOOKLET

It Gives You Basic Information on PIONEER Centrifugal and ROLLWAY Positive Displacement PUMPS for Coolants, Lubricants, and Abrasive Liquids

Booklet illustrates some 40 Pioneer and Rollway models, with many application pictures and a description of the features of basic pump types.

PIONEER PUMP DIVISION
DETROIT HARVESTER COMPANY
5450 West Jefferson Ave. • Detroit 9, Michigan

For more details circle NED-138 J5 on enclosed inquiry slip

Have you investigated the design and cost saving opportunities offered by

NICE...

Standard and Special Ball Bearings Since 1902

Write for Cat. No. 150

NICE BALL BEARING CO.
NICETOWN • PHILADELPHIA • PENNSYLVANIA

For more details circle NED-139 J5 on enclosed inquiry slip

ROTO FINISH

it's the finish that counts!

Roto-Finish maintains exact tolerances on precision parts with no significant dimensional changes. It makes possible a wide range of finishes applicable to parts of almost any size or shape; finishes a variety of materials — at big savings in manpower and costs. Without obligation, send sample unfinished parts to us. Include finished part for guide and your specifications. Roto-Finish will finish parts in its laboratory. You get a complete process report. You are guaranteed results and a finish that counts!

WRITE FOR FACT-PACKED ROTO-FINISH CATALOG NOW!

Roto-Finish ROTO FINISH COMPANY
3702 MILHAM ROAD, KALAMAZOO, MICH. P. O. Box 988 — Phone 3-5578

▲ For more details circle NED-140 J5 on enclosed inquiry slip ▲

FOR YOUR

FLOW CONTROL

COMPACT
RELIABLE
RUGGED

WATERMAN FLOW REGULATOR MODEL 1407-4 has minimum to maximum flow adjustment obtained by 180° handle rotation. Flow rate changes easily accomplished. Adjustable handle tension eliminates need for wrenches and locking levers. For installations requiring frequent changes in operating speeds or throttling control. Either right or left rotation of control handle. Operator can control two operations simultaneously.

Write for latest illustrated bulletin H

WATERMAN ENGINEERING COMPANY
725 CUSTER AVENUE • EVANSTON, ILLINOIS

▲ For more details circle NED-141 J5 on enclosed inquiry slip ▲

• Cushion shock loads • Prolong bearing life • Assure quiet operation

Equip your machinery with Morflex Couplings. With no moving parts to worry about, you eliminate lubrication and maintenance. They are impervious to water, dirt, oil and weather conditions.

Elastic deflection of neoprene biscuits accommodates for all conditions of misalignment and torsional load vibration. Morse Morflex Couplings give smooth, vibration-free power transmission without undue thrust loads on bearings.

Standard units available from stock in a wide capacity range. Special adaptations designed and quoted upon request.

For more detailed information, write for Catalog C 41-48.

MORSE CHAIN COMPANY, Industrial Sales Division, Ithaca, New York

MORSE BW **CHAINS, COUPLINGS, AND CLUTCHES**

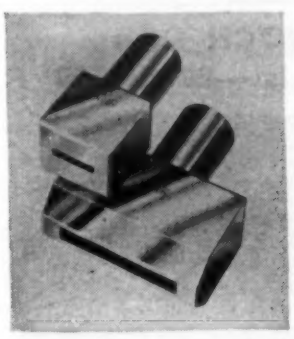
▲ For more details circle NED-142 J5 on enclosed inquiry slip ▲

POWER POSITIONER
cylinder operates on 100-psi air

Positioning of proportioning pumps, electrical components, governors and valves are but a few of the applications for this model B-50 cylinder Conomotor. This pneumatically positioned power operator will produce stroke lengths up to 2 in. and thrusts of 300 lb in either direction. It uses supply air pressures up to 100 psi with a conventional 3 to 15-psi signal range. Made by **Conoflow Corp.**, 2101 Arch St., Philadelphia 3, Pa.

▲ For more details circle NED-143 J5 on enclosed inquiry slip ▲

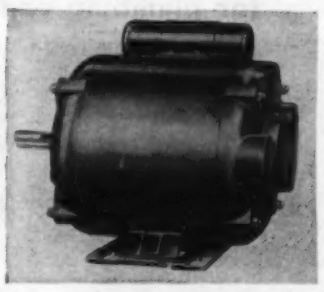
PUNCH PRESS TYPE HOLDERS
accomodate 1/32 to 1/8-in. type



Two standard stock models of punch press holders are now available which will hold from 1/32 to 1/8-in. Pryor type. Holders have 1½ x 2 in. shank which will fit into any standard punch press. The RSA holder accommodates 12 pieces of 1/16-in. type or 16 pieces of 1/32-in. size. The RSB holder will hold 28 pieces of 1/16-in. type in two lines, 21 pieces of 3/32-in. type in one line and 16 pieces of 1/8-in. type in one line. Made by **Pryor Steel Stamps**, Dept. 905, 216 W. Jackson Blvd., Chicago 6, Ill.

▲ For more details circle NED-144 J5 on enclosed inquiry slip ▲

FHP ELECTRIC MOTORS
offered in 1/4, 1/2, 3/4 and 1-hp models



Dual - voltage windings and ball bearings are features of these single-phase fractional-horsepower electric motors. Cost is reportedly about the same as standard sleeve-bearing single-voltage motors. They are available in 1/4, 1/2, 3/4 and 1-hp ratings at 1200, 1800 and 3600 rpm for 115 or 230-v 60-cycle ac. They have one-piece, aluminum injection molded squirrel-cage rotors which are dynamically balanced for vibration-free operation. Distributed by **ACEC Electric Corp.**, Dept. NED-IP, 40 E. 49th St., New York 17, N. Y.

▲ For more details circle NED-145 J5 on enclosed inquiry slip ▲

"sectionalized" factory built
PERECO CONTINUOUS FURNACES

easily assembled in the field—
—easily dismantled for moving

In either "Sliding Plate" or "Car Type", Pereco factory-built sectionalized electric continuous furnaces are quickly assembled for volume production right on the job location—and just as quickly dismantled for moving or relocating. This new series of furnaces has silicon-carbide elements in three individually-controlled banks and provide accurately controlled operating temperatures of 500° F. to 2600° F. They're supplied complete with hydraulic pusher assembly and all temperature and power controls and are offered in a range of sizes and modifications to meet individual requirements.

PERENY EQUIPMENT COMPANY COLUMBUS, OHIO

Write Today for Details
PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio
Export Office: Bessemer Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-146 J5 on enclosed inquiry slip ▲

6418
PRECISION
SMALL HOLE DRILLING
Should always be done on the
HAMILTON VARIMATIC®

STURDY
BENCH TYPE
VARIABLE SPEED
SUPER SENSITIVE
PRECISE

For complete information write for our FREE Bulletin No. 5413. Address
The Hamilton Tool Company,
901 Hanover Street, Hamilton, Ohio.

IT'S A **Hamilton Tool**
USE IT WITH CONFIDENCE

▲ For more details circle NED-147 J5 on enclosed inquiry slip ▲

B.F.Goodrich

Industrial tires wear longer, resist cuts better, automotive stampings company reports

THIS photograph was taken at the Detroit, Michigan, factory of one of the country's leading manufacturers of automotive stampings. Here over 200 materials handling units work in the yard or on floors often covered with tire-killing iron and steel scrap and oil. Premature tire failure could be common. But it's not, thanks to B. F. Goodrich industrial tires.

B. F. Goodrich industrial tires are hard to beat, the supervisor of truck repairs reports. They wear longer and resist cuts better than other tires. That's because the trained B. F. Goodrich Tire and Wheel Analysis man matched the tires to the job.

You can have a FREE TW Analysis, too

The B. F. Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and any special problems you have. Then he'll recommend the right industrial tires for you to use—the right type, size, tread compound and tread design. You can save as much as 50% from this service, as much as 20% from the maintenance tips he gives. His services are FREE and unbiased, because B. F. Goodrich makes a *complete* line of industrial tires.

Mail the coupon today. Consulting engineering service is available to manufacturers of materials handling equipment.

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Company
Tire & Equipment Division
Department TW-532, Akron 18, Ohio

Please send me additional information on your Tire and Wheel Analysis Plan

Name_____
Company_____
Street_____
City_____ Zone____ State____

B.F.Goodrich

▲ For more details circle NED-148 J5 on enclosed inquiry slip ▲

STRONG...FLEXIBLE...
yet only 1/32" diameter!

MINIATURE
SPIROL PIN

Strong — with exceptional vibration and shock resistance, even in diameters as small as 1/32". The only flexible pin made in miniature diameters.

Self-locking flexible coils hold the pin firmly in the hole. Spiral coils exert even radial tension; no weak "hinge" lines. No reaming or tapping. Diameters from 1/32".

FREE! Send for sample Spirol pins and data folder.

C. E. M. COMPANY • 87 SCHOOL ST. • DANIELSON, CONN.

▲ For more details circle NED-149 J5 on enclosed inquiry slip ▲

Wolverine
Heavy Duty
QUICK ACTION
TOGGLE CLAMPS
Extra CLEARANCE
Extra SPEED
and now
Extra
SERVICE
assured by the use of
HARDENED PINS & BUSHINGS
at all bearing points, in the popular C-100, CQ-1100, and CQ-800 series Toggle Clamps.
Rugged construction—drop forgings, cast steel and solid bar stock.
Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.
Write for Bulletin

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

▲ For more details circle NED-150 J5 on enclosed inquiry slip ▲

NEW Mall MODEL 1435R PORTABLE ELECTRIC
REVERSIBLE SCREWDRIVER

FLICK OF THE SWITCH THROWS IT IN REVERSE

It's lightweight! It's highly maneuverable! It drives all standard screws...and just a flick of the switch throws it in reverse. Adjustable slip clutch gives a pre-determined set to each screw driven. This versatile model is built to handle heavy production work in metal or woodworking shops. Try it soon in your operation.

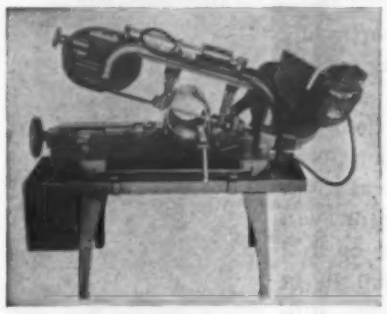
• Flick reversing switch operates easily with thumb • Clutch "slips" when proper screw tension is reached • Adjust clutch tension quickly from outside • Trigger switch in pistol grip handle.

Call or write the Mall Service Warehouse nearest you for a Free Demonstration.

MALL TOOL CO. PORTABLE POWER TOOLS GASOLINE•ELECTRIC•AIR
7727 S. Chicago Ave., Chicago 19, Illinois
Send me all the facts about the new MALL Reversible Screwdriver.
Name
Address
MU-195

▲ For more details circle NED-151 J5 on enclosed inquiry slip ▲

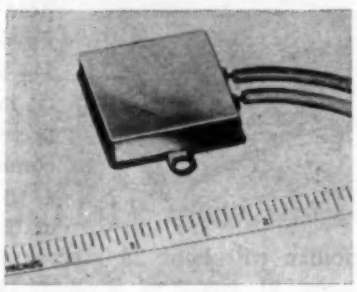
HORIZONTAL BAND SAW
cuts up to 6 x 13-in. metal



Developed for metal cutting on medium production, general utility, and tool or stockroom work, model 600 horizontal band saw has selective speeds of 50, 90, 160 or 250 fpm. It has a rectangular capacity of 6 x 13 in. and will handle 6¾-in. stock or 6-in. pipe. Features include constant-load blade tensioning, safety switch for thermal overload protection and automatic stop after each cut, adjustable uniform gravity feed of counterbalanced frame, adjustable ball bearing guides for stabilizing the ⅝-in. wide blade and sealed ball bearing motor. Made by **Wells Mfg. Corp.**, 1113 Harding St., Three Rivers, Mich.

▲ For more details circle NED-152 J5 on enclosed inquiry slip ▲

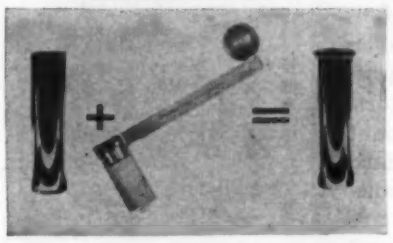
SEALED THERMAL SWITCH
calibration range is —20° to 600° F



Having a bimetal element and stainless steel case, this hermetically sealed thermal switch is designed for easy mounting on flat surfaces wherever skin temperatures must be controlled. It measures 1 x 1 x ¼ in., and is suitable for high altitude work. Switch is rated 2 amp on 115-v ac resistive, and factory set and sealed calibration range is from −20° to 600°F. Made by **Control Products, Inc.**, 306 Sussex St., Harrison 12, N. J.

▲ For more details circle NED-153 J5 on enclosed inquiry slip ▲

LARGE-TUBE FLANGER
for plumbing and drain uses



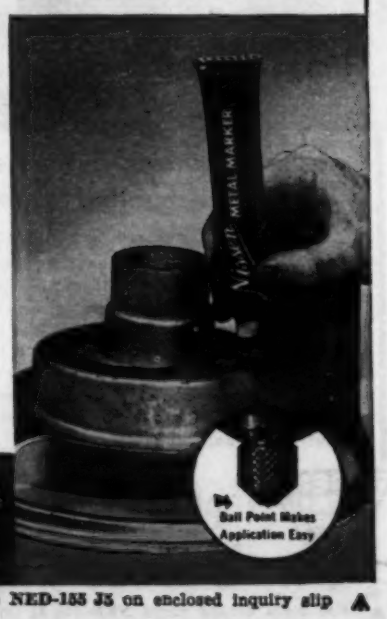
Flanged tail pieces for sinks, flushometer valves and other plumbing fixtures are readily formed from 1½-in. diameter tubing by this Quick-Flanging tool. Inside of tubing is oiled or greased, tube is clamped in vise, tool is inserted, and handle is turned to form flange when pressure is applied. Made by **J. A. Sexauer Mfg. Co.**, Dept. 39, 2503-05 Third Ave., New York 51, N. Y.

▲ For more details circle NED-154 J5 on enclosed inquiry slip ▲

USE THE Nissen METAL MARKER
TO MAKE ENDURING MARKS ON METAL, WOOD, GLASS, PLASTIC-Smooth OR ROUGH SURFACES

The Nissen Metal Marker is a handy, easy-to-use, ball point writing tube. The special, fast drying ink in the 6" x 1" tube withstands heat and weathering and will not chip, fade, peel or rub off in general use.

Available in seven standard colors.



JOHN P. NISSEN, JR., CO.
manufacturers
GLENSIDE, PA.

▲ For more details circle NED-155 J5 on enclosed inquiry slip ▲

This is the PRECISION Electronic Relay Control Box

● The automatic laboratory control for Electric Heater Circuits, Timing Devices, Thermoregulators and Liquid level Controls—the best way to handle substantial power loads with very minute currents from regulating devices.

These Features Are Important:
- Current Carried: 15 amperes
- Three Plug-In Receptacles
- For normally open or closed circuits
- Fool-Proof Conversion Switch
- High Speed, Silent Operation
- Operates on maximum of 55 micro-ampere
- Portable and Safe

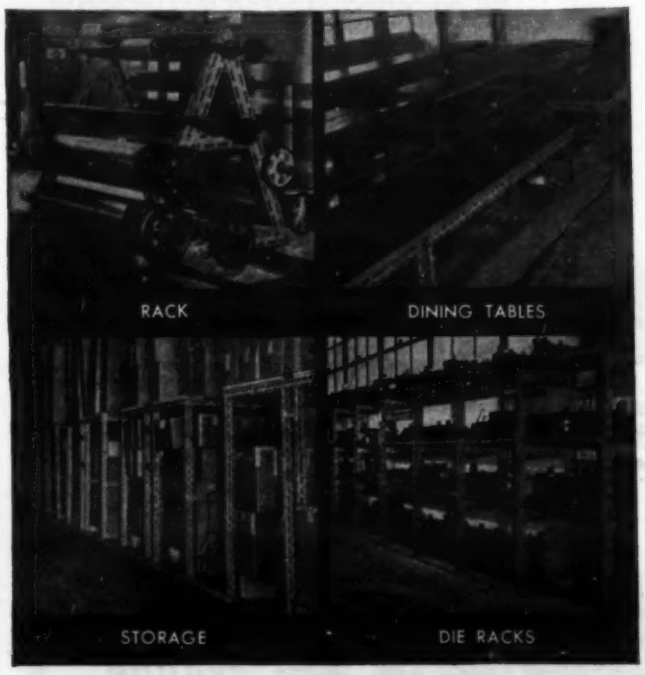
IMMEDIATE DELIVERY
Described in Data Sheet 11493. Write for a free copy.

Precision Scientific Company
3755 West Cortland Street • Chicago 47, Illinois

▲ For more details circle NED-156 J5 on enclosed inquiry slip ▲

How many uses for
DEXION
in your plant?

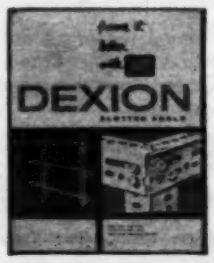
Only your imagination limits the applications of this ingenious slotted angle framing material. Users discover that they can build whatever they need—when they need it—and build it cheaper! Easily dismantled, DEXION Slotted Angle can be *reused* in new ways to meet changing needs. There's no waste! And anyone who can use a wrench and a saw (or DEXION cutter) can build with this precision-made slotted angle.



Here's why you'll want DEXION Slotted Angle over any other framing material

1. Simple to connect.
2. Easy to cut.
3. Strong and rigid.
4. Re-usable.
5. Easy to measure.
6. Easy to store.

DEXION is a packaged product, ten pieces to a package, each piece 10 feet long. Three types, with dimensions of 3" x 1½" x .080"; 3" x 1½" x .104"; 2¼" x 1½" x .080".



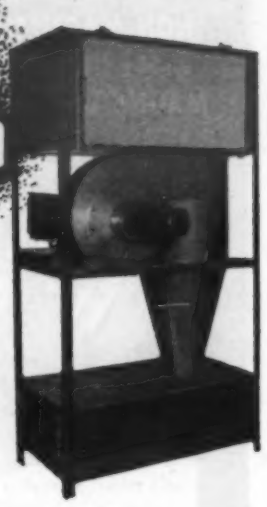
GET THE EXCITING NEW DEXION IDEA BROCHURE,
which gives you full information—and shows what scores of manufacturers are building with this amazing framing material. Write direct to the address shown below.

DEXION DIVISION
ACME STEEL COMPANY
Dept. 9F, 2840 Archer Avenue, Chicago 8, Illinois

▲ For more details circle NED-157 J5 on enclosed inquiry slip ▲

EFFICIENT–LOW COST

Dust Collection



Easy installation . . . efficient low-cost operation . . . simplified maintenance, make Dustkop *FIRST* among equipment to collect most all industrial dusts. There are Dustkop models to eliminate your dust problems . . . that are space saving, self-contained units, or exhaust type for rafter, ceiling or outside location. Write for descriptive literature.

DUSTKOP STOPS DUST

37 STANDARD MODELS TO CHOOSE FROM

• READY TO USE

Also a Complete Line of Mist Collectors

AGET MANUFACTURING COMPANY
1396 E. CHURCH ST. • ADRIAN, MICHIGAN

▲ For more details circle NED-158 J5 on enclosed inquiry slip ▲

FREE

INFORMATIVE BULLETIN

How to set new highs in precision measurement of low temperatures

This special low-temperature Alnor Pyrometer is invaluable for balancing hot water heating systems, checking floor, wall or ceiling temperatures in panel heating systems, measuring temperature of refrigerated coils, insulation and all other low temperatures. Sturdy and completely portable, the Type 2300 can be taken anywhere—and give precise, direct readings in from 3 to 5 seconds.

Tear out this ad and attach it to your letterhead. Mail to Illinois Testing Laboratories, Inc., Room 529, 420 North La Salle Street, Chicago 10, Illinois.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-159 J5 on enclosed inquiry slip ▲

RUBBER CUSHIONED ADJUSTABLE FEET

A handsome sturdy part that provides suction to hold appliance in place, absorb vibration, prevent marring of floors and improve product appearance.

USED ON:

- Large Air Conditioners
- Electronics Equipment
- Game Tables
- Movable Office Partitions
- Office Equipment

Now available from stock in two popular sizes:

1/2 –13 x 2"
5/16–18 x 2"

Our 50th Anniversary (1905-1955)

Samples and information furnished upon request

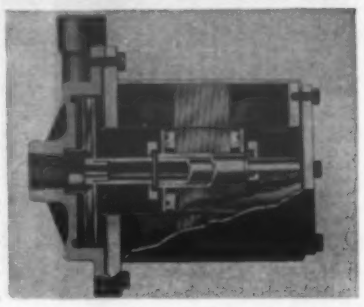
THE OHIO NUT AND BOLT COMPANY

Specialists in the Manufacture of Weld Fasteners and Adjusting Screws

14 First Avenue, Berea, Ohio

▲ For more details circle NED-160 J5 on enclosed inquiry slip ▲

INTEGRAL ROTOR PUMP
motor cooled by pumped fluid



Redesign in this model S series of canned rotor centrifugal pumps has resulted in lowering of cost $100 to $150 less than previous ⅓ through 3-hp units in the model C series. Titanium, zicronium, Hastelloy, Monel, Carpenter 20 stainless and other alloy constructions are offered for wide range of corrosion resistant service. Bearing area has been increased approximately 400 per cent, and pumped fluid passes through unit to afford efficient cooling of stator windings, rotor and bearings. Pumps are available with capacities up to 170 gpm and heads to 150 ft, with standard temperature and pressure limits of 350° F and 150 psi. Made by **Chempump Corp.**, Station H, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

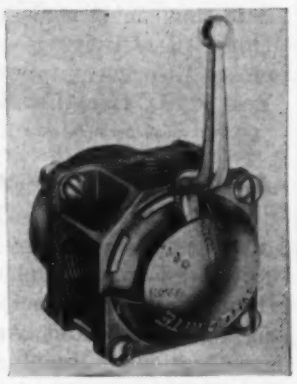
▲ For more details circle NED-161 J5 on enclosed inquiry slip ▲

WELDING TIP CLEANERS
21 sizes housed in single tool

All 21 sizes of tip cleaners which will clean 46 drill sizes from No. 75 to No. 30 are contained in this Master set of Wypo tip cleaners for welding torches. They clean and polish without jamming, scratching or enlarging the tip port. There are 60 cleaning edges per inch of cleaner. Made by **Maitlen & Benson, Inc.**, Dept. D, 1395 Obispo St., Long Beach 4, Calif.

▲ For more details circle NED-162 J5 on enclosed inquiry slip ▲

MINIATURE MULTIPORT VALVE
made for ¾-in. pipe systems

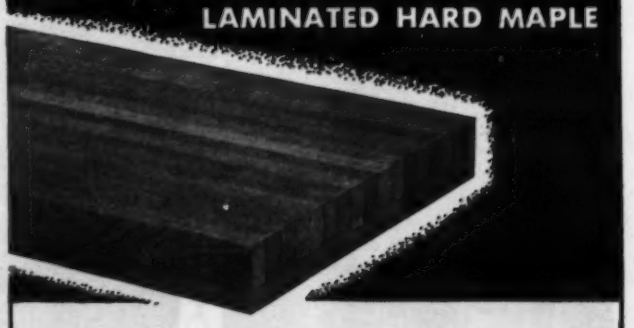


Designed primarily for top-salting domestic water softeners, the Solomite multiport lift-turn valve is applicable to other piping systems requiring two or three-position control of three and four-way circuits. Change in circuit is made by lifting handle and dropping it into proper slot. The all-brass unit features an O-ring seal on stem shaft and forged handle, cap and bonnet. It is made in ¾-in. size only by **AquaMatic, Inc.**, 2414 Grant Ave., Rockford, Ill.

▲ For more details circle NED-163 J5 on enclosed inquiry slip ▲

BENCH TOPS

LAMINATED HARD MAPLE



Tolco bench tops are the first choice of the country's leading industries. They are "industry proven" for assembly benches, laboratory tables, cutting tables, workbenches and packing tables. Select pieces of ¾" Northern, hard maple laminations are electronically glued into a solid maple top. No soft wood cores—will not chip—easy and inexpensive to refinish. Full range of sizes. Sold by better distributors everywhere.

WRITE FOR NEW TECHNICAL LEAFLET AND PRICES.

THE TOLERTON COMPANY
P.O. BOX K658 • ALLIANCE, OHIO
ESTABLISHED 1894

▲ For more details circle NED-164 J5 on enclosed inquiry slip ▲

CUT COST of PRECISION gear PRODUCTION

5416

THIS FACT has been demonstrated time and time again

If you produce small, fine pitch, precision gears, up to 6" O.D. of the gear blank, use of the Hamilton Precision Gear Hobber will enable you to attain more gear precision with no sacrifice in gear production, or increased gear production with no sacrifice in gear precision . . . or both!

WANT FACTS?

Write for Hamilton Bulletin No. 5416. Address The Hamilton Tool Company 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

▲ For more details circle NED-165 J5 on enclosed inquiry slip ▲

OHMITE®

Power Type RESISTORS
for high-current LOW-RESISTANCE APPLICATIONS

CORRIB® vitreous-enameled type
Fixed, tapped, and adjustable types in 22 sizes, 90 to 1500 watts. Resistances from .04 to 70 ohms.

POWR-RIB edgewound-ribbon type
Has ceramic core, sectionalized to resist shock. Four sizes. Values .043 to 1.6 ohms; 24 to 95 amps.

POWR-RIB round-wire type
Has sectionalized core similar to ribbon type. Four sizes. Values from .69 to 25 ohms; 5.1 to 18.4 amps.

Write for Bulletin 144

OHMITE MANUFACTURING COMPANY
3620 Howard St., Skokie, Ill. (Suburb of Chicago)

OHMITE®
RHEOSTATS • RESISTORS
RELAYS • TAP SWITCHES

▲ For more details circle NED-166 J5 on enclosed inquiry slip ▲

Loading Ramp on Wheels Eliminates Costly Hand Loading Operations!

If you have an older building, a yard handling problem; need extra or movable dock facilities—you'll be interested in the substantial cost savings that can be yours with a Magliner Mobile Loading Ramp. A Magliner loading ramp is the permanent solution to overtaxed or inadequate dock facilities! Made of magnesium, Magliners can be moved by one man . . . give you a "loading dock" *where you want it—when you want it!* You can use power trucks and other rolling equipment to maximum advantage—eliminate costly hand loading . . . speed operations . . . cut expenses! Magliner Mobile Loading Ramps are available in a wide range of standard and special sizes.

MagLiner

Write today for Bulletin DB-211!

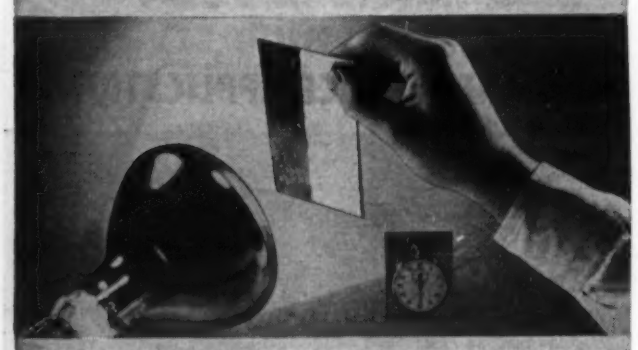
MAGLINE INC., P.O. Box 59
Pinconning, Michigan

In Canada: Machine et Canada, Ltd., Brantford, Ontario

▲ For more details circle **NED-167 J5** on enclosed inquiry slip ▲

Heat test shows how TENKOTE ALUMINUM COATING protects roofs—keeps buildings cooler

(Tenkote is an aluminum asphalt coating manufactured by American Asbestos Products Company, Cleveland, Ohio)



UNPROTECTED HEAVY ROOFING PAPER SOFTENS after 30 seconds of simulated sunlight from lamp. Right side of sample has been protected with aluminum asbestos roof coating. Summer sun often raises roof temperatures above the melting point of asphalt, draws out the oils, shortens roof life.

ASPHALT BECOMES FLUID, DRIPS TO TABLE after 120 seconds. On roofs, this means leaks, leads to costly repairs. Aluminum pigment prevents this, enables coating to be used over any previous roof paint or coating without bleeding through. And aluminum asbestos coatings assure cooler under-roof temperatures.

Asphalt asbestos aluminum coatings reduce roof surface temperatures up to 40 degrees. This means greater comfort and efficiency in factories and offices, greater roof protection. Aluminum coatings are ready-mixed, need no thinning or heating, can be applied with a roofing brush or spray gun.

ALCOA does not make roof coatings. But we will gladly refer you to reputable manufacturers who do. For information, write to ALCOA today. Use the coupon.

PIGMENTED WITH ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

Aluminum Company of America, Paint Service Bureau
1788-J Alcoa Building, Pittsburgh 19, Pennsylvania.
Please send me your free booklet, *Aluminum Asphalt Roof Coatings Make Time Stand Still.*

Name_____
Company_____
Address_____
City_____ Zone____ State_____

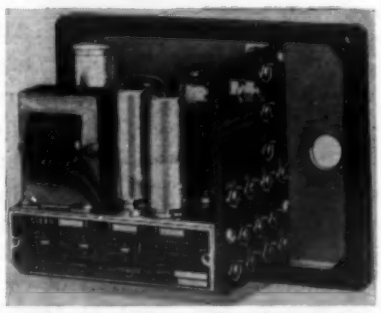
▲ For more details circle **NED-168 J5** on enclosed inquiry slip ▲

FLASHLIGHT BATTERY CHARGER extends life up to 400 per cent

Capable of extending the use-life of ordinary flashlight batteries up to 400 per cent, this compact bench-size battery charger is shown in use at Northrop Aircraft, Inc. Charger takes 184 batteries when fully loaded, and charging operation requires 2 hours. Batteries are checked for their ability to take a charge in the tester shown at left. Life expectancy of the cells is about the same as when new up to the third recharging. Efficiency after the third charge is reduced somewhat, and four charges mark the limit of the cell's usefulness. In this installation, where 13,000 flashlight cells were previously used each month, the charger has paid for itself in 45 days. It is made by **Majors Aircraft Engineering Co.**, Hawthorne, Calif.

▲ For more details circle **NED-169 J5** on enclosed inquiry slip ▲

PHOTOELECTRIC CONTROL for protective and repetitive uses



Actuating a double-pole double-throw relay with contacts rated 8 amp at 115-v ac, model F1A photoelectric control is easy to install. It is adaptable for protective as well as repetitive type applications where the phototube normally "sees" light. The plate relay energizes when the light beam is on the phototube, and de-energizes when the light beam is interrupted or the tube filament fails. It also de-energizes when any of the unit's electronic tubes lose emission, thus affording "fail safe" operation for protective applications such as smoke detection, level and limit control, and safety controls. Sensitivity is adjustable, and setting is enclosed to prevent tampering. Made by **Autotron Co.**, Box 722-D, Danville, Ill.

▲ For more details circle **NED-170 J5** on enclosed inquiry slip ▲

Air-Operated Spot Welder

Sciaky Bros., Inc.—Type PMCO 2 ST air-operated press-type three-phase Modu-Wave spot welder is subject of 8-page descriptive bulletin 334-3. Piece details the Modu-Wave principle of operation which satisfies rigid aircraft and Army-Navy resistance welding specifications. Machine will weld aluminum, magnesium alloys, low carbon steels, austentic steels and nickel alloys.

▲ For more details circle **NED-171 J5** on enclosed inquiry slip ▲

M&M NEW HYDRAULIC KEYSEATER

In this new M & M Keyseater hydraulic action produces exceptionally smooth performance. Cutter stroke and feed are automatically controlled, tool relief is also automatic. High degree of accuracy is assured. Rugged construction features based on excellent design guarantee long life. Available in two sizes, 7000 or 9500 pounds working pull, with 12" and 15" keyway lengths. Larger capacity machines are being designed . . . available soon. Write for specification folder.

90

MITTS & MERRILL

1000 South Water Street • SAGINAW, MICHIGAN

▲ For more details circle **NED-172 J5** on enclosed inquiry slip ▲

HOLDS NON-MAGNETIC MATERIALS ON MAGNETIC CHUCK

*Magna-Vise**

(. . . a pair of spring-loaded clamps, actuated by magnetic pull of the chuck, hold material firmly against chuck face.)

*Patented

NEW LOW PRICES!

Model	Length	Width	Thick	Dia.	Price*
6	6⅝"	1 3/16"	3/64"	⅞"	$26.00
6A	6⅝"	1 3/16"	1/16"	⅞"	28.00
10	10"	1 3/16"	3/64"	⅞"	35.00
14	14"	1 3/16"	3/64"	⅞"	52.50

*F.O.B. Big Rapids, Michigan
ORDER TODAY, DEPT. ND-95

Magna-Lock magnetic chucks and devices.

MAGNA-LOCK, INC.
BIG RAPIDS, MICHIGAN, U. S. A

▲ For more details circle **NED-173 J5** on enclosed inquiry slip ▲

an ACCO product

Acco Announces the WRIGHT Electric Roller Chain Hoist

• This dependable hoist—competitively priced—rounds out the famous WRIGHT line of motor-driven and hand-operated equipment which includes hoists, ratchet lever hoists, cranes, end trucks and drive units for cranes, and trolleys.

This is a hoist that has been proved in service. A hoist with fewer parts and amazingly low maintenance. A hoist of rugged simplicity that lasts longer. The WRIGHT Electric Roller Chain Hoist is built to ACCO standards of quality for Better Value to the user.

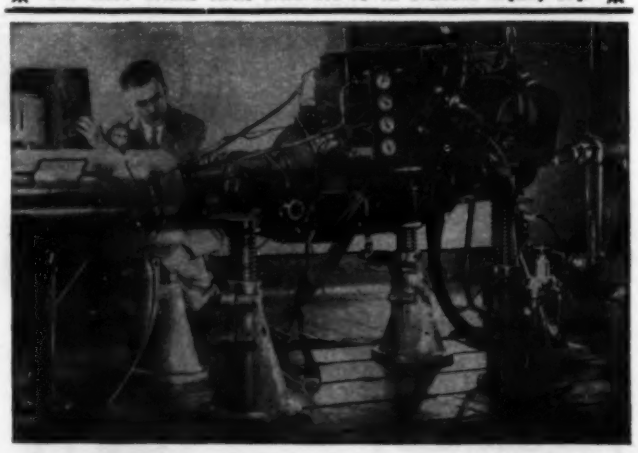
It has the fewest number of wearing parts. It has a self-locking, double-worm gear which acts as its own load brake. And it has many other important features. Available through WRIGHT HOIST distributors.

Write our York, Pa., office for Bulletin DH-504 for the full story

ACCO **Wright Hoist Division**
AMERICAN CHAIN & CABLE
York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

for Better Values

▲ For more details circle **NED-174 J5** on enclosed inquiry slip ▲



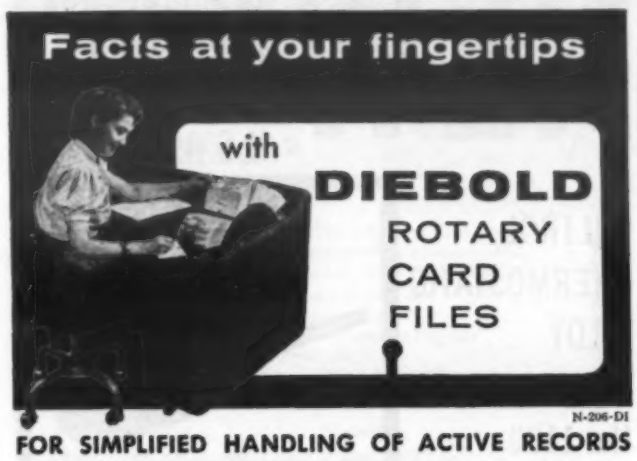
Improves Flexibility and Accuracy in Dynamometer Tests

In this dynamometer test, an automobile engine is supported by Lake Shore engine jacks. These versatile jacks have a 360 degree eccentric swing and are quickly adjustable and locked in position. They give you greater mounting flexibility and more accurate testing control.

Lake Shore makes a complete line of base plates, dynamometer bases, surface plates, and engine stands. For further details, send for your free copy of Lake Shore's new base plate bulletin.

LAKE SHORE Engineering Company
IRON MOUNTAIN 6, MICHIGAN

▲ For more details circle **NED-175 J5** on enclosed inquiry slip ▲



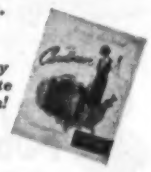
FOR SIMPLIFIED HANDLING OF ACTIVE RECORDS

For the fastest and most economical handling of inventory, cost, production, sales, personnel, service and maintenance records . . . there is nothing to compare with the *new* Diebold Cardineer Rotary Card File.

It features ease of operation . . . encourages orderly purposeful work . . . and it saves you time and money. Users report savings up to 50% in time and space.

Diebold®
INCORPORATED
1008 Mulberry Rd., S. E.
Canton 2, Ohio

Write today for complete information!



▲ For more details circle NED-176 J5 on enclosed inquiry slip ▲

HOW YOU CAN GET

ADDED STEAM CAPACITY

EVEN IF CRAMPED FOR SPACE

All railroads do it on Diesel Streamliners, and now you can, too—install efficient Vapor Modulātic Steam Generators in spare space you'll never miss.

These capable units pass complete through normal plant-type doorways, come to you ready to connect and fire up without special foundation, expensive stack, separate enclosure. And none of the seven sizes from 18 to 160 h.p. needs more room than a watchman's cot!

EVERYTHING YOU WANT

You get steam in 2 minutes from a cold start . . . maintained selected pressure from 5 to 300 p.s.i., or more, automatically . . . oil, gas, or combination oil-gas operation . . . unified, coordinated control on multiple installations.

Over 10,000 Modulātics are now in use for heating, power, and processing. It's time to take a new look at modern steam generation. Ask for Bulletin 586.

VAPOR
MODULĀTIC
VERTICAL STEAM GENERATOR

VAPOR HEATING CORPORATION
80 E. Jackson Blvd.
Chicago 4, Ill.

In Canada:
Vapor Car Heating Co. of Canada, Ltd.
65 Dalhousie St. • Montreal 3

▲ For more details circle NED-177 J5 on enclosed inquiry slip ▲

CORROSION-RESISTING

INCO-CAST FITTINGS

OF MONEL®-NICKEL-INCONEL®

- Over 25 standard types
- Wide range of sizes
- Fast service through your nearby INCO Distributor

WRITE...

Our handy Catalog Price List contains full information. It's yours on request.

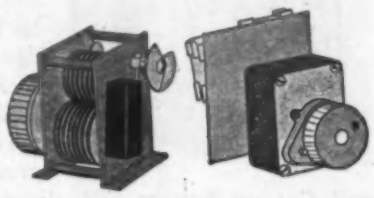
The INTERNATIONAL NICKEL COMPANY, Inc.
67 Wall Street New York 5, N.Y.

INCO
TRADE MARK

▲ For more details circle NED-178 J5 on enclosed inquiry slip ▲

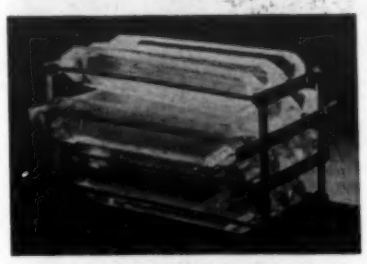
TIMER-PROGRAMMER
any of ten speeds instantly selected

Ten speeds of 1 revolution per 1, 5 or 15 minutes; 1, 4 or 12 hours; 1 or 2⅓ days, and 1 or 4 weeks are instantly selected on this MG timer and programming instrument. To make speed changes, pickup gear is merely moved along its shaft. Device can be furnished with cam as shown or with a program disk up to 6 in. in diameter. Also available is optional adapter plate to hold four switches. The 6-in. disk will handle 10 switches. Synchronous motor and all gears and shafts have Oilite bearings. Base price is $24.50. Made by **Gorrell & Gorrell,** Box 10, Haworth, N. J.



▲ For more details circle NED-179 J5 on enclosed inquiry slip ▲

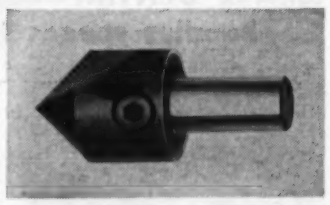
SYNTHETIC QUARTZ CRYSTALS
can be grown to desired size



Electronic grade synthetic quartz crystals are now available on a commercial basis. Crystals can be grown free of twins and, within limits, to the size, shape and orientation needed for specific applications. They have high quality throughout and are without defects often found in natural quartz. Photo shows fully grown synthetic crystals as they are removed from autoclave. Made by **Brush Electronics Co.,** Equipment Dept. RT-2, 3405 Perkins Ave., Cleveland 14, O.

▲ For more details circle NED-180 J5 on enclosed inquiry slip ▲

DEBURRING-CHAMFERING TOOL
features two-piece construction



Fast deburring and chamfering of hole faces can be done with this Noboursink tool. Made from high-speed steel, heat-treated and precision ground, tool has 90-degree included angle for producing a 45-degree chamfer. High rake angle accomplishes shaving action with minimum of pressure. Two-piece construction allows cone faces to be cylindrically ground on tool grinders, or on any lathe with a tool post grinder. Half members are locked in displace position to provide automatic radial relief. Black-oxide finish reduces friction and tendency to gall. Made by **Nobur Mfg. Co.,** Dept. N, 6860 Farmdale Ave., North Hollywood, Calif.

▲ For more details circle NED-181 J5 on enclosed inquiry slip ▲

Dayton *roll-along ladders* *move safely*

There are hundreds of uses for this easy-to-move safety ladder. In stock room, tool room, supply room, etc., it offers convenience and mobility with a handy platform to stand on, when placing items. Check these features.

1. Rubber tired swivel-casters provide easy, effortless movement in any direction.
2. Safety shoes with renewable neoprene rubber treads hold ladder safely stationary while ladder is in use.
3. Constructed of tested airplane spruce throughout, reinforced with steel braces for added safety.
4. Folds compactly for convenient storage.
5. Three sizes: 3 ft., 4½ ft., 6 ft.

You'll wonder how you ever got along without a Dayton Roll-Along Safety Ladder. Sizes 3' to 6' to platform.

For FREE literature write Dept. E.

Dayton *safety ladder co.*
2339 Gilbert Ave., Cincinnati, Ohio
In Canada—SAFETY SUPPLY CO., TORONTO

▲ For more details circle NED-182 J5 on enclosed inquiry slip ▲

Speed Up Production . . . Reduce Inspection Time

NEW!

BAUSCH & LOMB
Measuring Magnifier

$21.00 Includes Case And 1 Scale

7X Hastings Triple Aplanatic Lens

An improved instrument for measuring small dimensions—also for spotting production flaws. 4 separate photometallic scales (one general purpose) for greater accuracy in measuring diameters, radii, angles, decimal inches and millimeters. Dust-proof, long-life construction . . . rugged pocket-size plastic case.

BAUSCH & LOMB

Write *today for complete information. Bausch & Lomb Optical Co., 51645 Lomb Pk., Rochester 2, N. Y.*

▲ For more details circle NED-183 J5 on enclosed inquiry slip ▲

Save 50-60% on fuel with Yale Trucks using LP-Gas System

NOW AVAILABLE IN TRUCK CAPACITIES FROM 2,000 TO 10,000 LBS.

You pay up to 7¢ a gallon less—when you buy and store Liquefied Petroleum Gas in bulk.

Yale LP-Gas system is completely safe—approved by Underwriters' Laboratories. Sealed fuel system eliminates danger from leaks, evaporation. Safety valve automatically shuts off fuel when engine stalls or fuel line is damaged. Use permanently attached A.S.M.E. containers or removable I.C.C. containers (shown above).

Quick cold-weather starts. LP-Gas eliminates detonation, lugging and choking for smooth, quiet operation. No knocks or ping even with a 10/1 compression ratio.

More efficient while idling—when carbon forms most rapidly. LP-Gas enters cylinders as a vaporized gas, burns completely. This reduces engine wear from carbon deposits, sludge, cylinder and piston ring washing, crankcase oil dilution.

Downtime cut in half—cleaner engine runs twice as long without overhaul. Oil lasts 5 to 8 times longer.

No fumes or odor. Can operate safely around sensitive food stuffs, in deepfreezes, warehouses and enclosed areas.

Factory-installed LP-Gas systems are available on all new Yale Gas Trucks, can be added to *any* Yale Gas Trucks you already own. For more details, call a Yale Representative today.

YALE*
INDUSTRIAL LIFT TRUCKS AND HOISTS
*Reg. U. S. Pat. Off.

Write today for the FREE Brochure—
"YALE LP-GAS SYSTEMS—Installation and Operation"
Address: The YALE & TOWNE Mfg. Co., Dept. 379
Roosevelt Boulevard, Philadelphia 15, Penna.

Gas, Electric, Diesel & LP-Gas Industrial Trucks
Worksavers • Hand Trucks • Hand & Electric Hoists • Pul-Lifts

▲ For more details circle NED-184 J5 on enclosed inquiry slip ▲

You can free people in your plant for profitable work if you leave materials handling to FERGUSON CONVEYORS. Parts, products, packages will get there faster, safer, easier because these conveyors move material more directly, bypass bottlenecks, reduce floor traffic, stop the clutter that wastes efficiency.

Efficient materials handling users constantly reorder FERGUSON power, roller and wheel conveyors because they get such a big return on their investment. Write, wire or call for more information.

HARRY J. Ferguson COMPANY
133 WEST AVE., JENKINTOWN, PA.
Turner 4-4401

For more details circle NED-185 J5 on enclosed inquiry slip

★ A Gear Motor for
SMALL APPLICATIONS

Our line of small induction motors is designed for applications where small power can be converted to considerable torque at slow output shaft speed. Hundreds of thousands are in use today for operating relays, vending, amusement, coin operated machines, motion displays, combination rotisserie and broilers, etc.

These motors are made in three basic sizes—speeds from 1 to 200 r.p.m. with proportional torque from 5 to 500 in. ounces. Write today for descriptive information, prices and data sheet.

MotoRESEARCH COMPANY
1600 JUNCTION AVENUE
RACINE, WISCONSIN

Designers and Manufacturers of
SPECIAL INDUCTION MOTORS

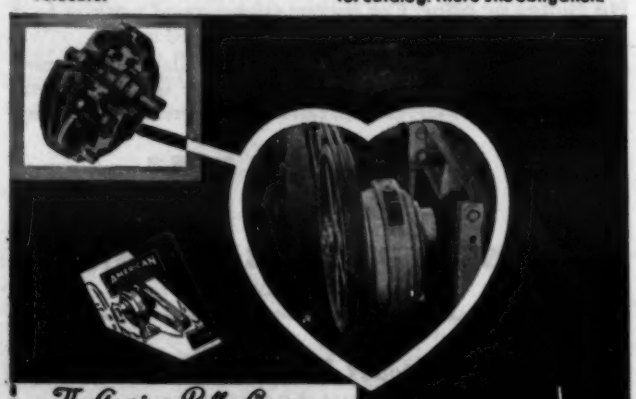
★ For more details circle NED-186 J5 on enclosed inquiry slip

SHAFT-MOUNTED SPEED-REDUCTION DRIVES SAVE TIME—GIVE PRECISE SPEED YOU NEED.

If you operate any slow-speed process you can save installation and maintenance time, valuable floor space and money, with the American Shaft-King Speed-Reduction Drive. It mounts directly on standard shaft extensions, needs no supports or costly engineering to install, remove or relocate.

Shaft-King is 98% efficient, produces the exact slow speed you want from 154 RPM down, handles requirements through 40 HP.

Two ratios—13 to 1 and 20 to 1—meet practically every need. Available immediately from your local distributor. Write for catalog. There's no obligation.

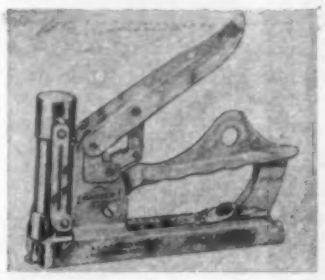


The American Pulley Company
4294 Wissahickon Ave., Phila. 29, Pa.
Please send new Shaft-King Catalog
Name
Title
Firm
Address
City Zone State

At the Profit End of the Machine
Power Transmission by
AMERICAN PULLEY COMPANY

For more details circle NED-187 J5 on enclosed inquiry slip

TACKING TOOL
staple remover part of front jaw



A staple remover is integral part of the front jaw of this tacking tool. Located above throat of tacker, staple remover does not interfere with tacker operation, but adds to its utility. Staple remover is beveled on top, graduated to a thin edge and flat on bottom. It slides readily under staple for quick removal. Made by **A. L. Hansen Mfg. Co.**, 5164 Ravenswood Ave., Chicago 40, Ill.

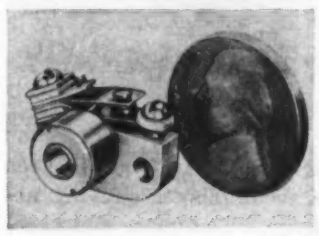
For more details circle NED-188 J5 on enclosed inquiry slip

DUST COLLECTORS
casters now optional equipment

Both cabinet and cyclone type Torit dust collectors are now available with hard rubber casters as optional equipment. Casters permit intermittent use of dust collectors on particle, powder, fume and dust creating equipment. Two of the 3 x 1-in. casters in each set are provided with locks, and all are welded to bottom of each dust collecting unit. Seventeen collectors, ranging from 160-lb model 54 to 1130-lb model 122, can now be provided with caster mobility. Model 66 cabinet-type collector is shown. Made by **Torit Mfg. Co.**, Dept. NE, 287 Walnut St., St. Paul 2, Minn.

For more details circle NED-189 J5 on enclosed inquiry slip

SMALL CENTRIFUGAL GOVERNOR
handles speeds to 21,000 rpm



This miniature centrifugal governor for fractional horsepower motors is unaffected by fungus or humidity, and is designed for use on 30-v dc or 110-v ac motors. Contacts open when a preset speed is exceeded, and when speed drops below this set value, the contacts again close. It has platinum contacts, coin silver plated commutator, beryllium copper springs and aluminum body. It is factory set to operate at one specific speed in range of 6000 to 21,000 rpm. Made by **Nader Mfg. Co.**, Dept. ND, 2661 Myrtle Ave., Monrovia, Calif.

For more details circle NED-190 J5 on enclosed inquiry slip

1/4 inch diameter — seamless metal BELLOWS

New opportunities for miniaturization are offered by ¼" and 5/16" diameter Bridgeport bellows. These unique units are formed hydraulically of brass, phosphor bronze, beryllium copper, monel and other metals. A wide range of characteristics is available. Send for full facts on Bridgeport's newest advance in bellows engineering. Use the coupon below.

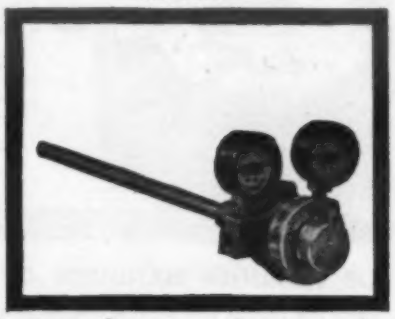
Mr. Controls
Robertshaw-Fulton
CONTROLS COMPANY

BRIDGEPORT THERMOSTAT DIVISION
Dept. (REN) MILFORD, CONNECTICUT
☐ Send data on small-diameter bellows
☐ Send Bellows Engineering Bulletin #125 (28 pages)
NAME
COMPANY
ADDRESS
CITY STATE

For more details circle NED-191 J5 on enclosed inquiry slip

NEW from FULTON SYLPHON TEMPERATURE REGULATOR HEADQUARTERS, U.S.A.

FULTROL THERMOSTATIC PILOT CONTROLLER No. 1100



For Trouble-Free, Accurate Control of Liquids or Air Temperature, Find Out about the New Fultrol Thermostatic Pilot Controller. Its simplified, compact design employs No Troublesome Levers or Pivots. Used in conjunction with valves or dampers it offers rapid response Over Temperature Ranges of 50°-250°F. or 150°-350°F. Control action can be quickly Reversed in the Field, and temperature differential adjusts by simple screwdriver setting from 5° to 25°F. Handles jobs not practical with self-operated regulators alone.

Robertshaw-Fulton CONTROLS COMPANY
For descriptive literature write for Bulletin RD.
FULTON SYLPHON DIVISION • KNOXVILLE 1, TENN.

For more details circle NED-192 J5 on enclosed inquiry slip

for press room flexibility...
LITTELL
mobile, self-powered feeding and straightening machine

Used with any hand-fed press or square shear, this machine instantly provides automatic straightening and feeding. These Littell machines operate independently of using equipment, supply their own smooth, hydraulic power. There is only a simple electrical connection between units, permitting easy reconversion to hand feeding. The machines feed up to 19" lengths at 40 strokes per minute and handle any coil stock up to .125" thick and 24½" wide. Pacemaker control automatically synchronizes feed and press action. *Write for Catalog 6-U, giving full details.*

F. J. LITTELL MACHINE CO.
Speed with Safety
ROLL FEEDS • COIL CRADLES
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland
4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

For more details circle NED-193 J5 on enclosed inquiry slip

American Wirebounds Awarded 1st and Only SAFE TRANSIT LABEL for Cast Iron Fixtures

New Container Cuts All Costs

Humphryes Mfg. says: "We save 67% packing man-hours, 5% materials cost, reduced weight, cut damage, handling, claims." American can adapt these new wirebounds to *your* products. Get the facts, and save *money!* No obligation—inquire now.

See us at the Expo in N. Y., Booth 211

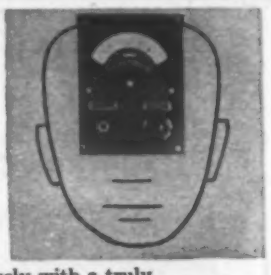
THE American BOX CO.
1917 W. 3rd Street ★ Cleveland 13, Ohio ★ Phone: SU 1-4900
Branch Plant: Marion, S. C. ★ Phone: Marion 703, 702

For more details circle NED-194 J5 on enclosed inquiry slip

Fielden TELSTOR

"masterminds" level continuously

DEPENDABLE LOW COST

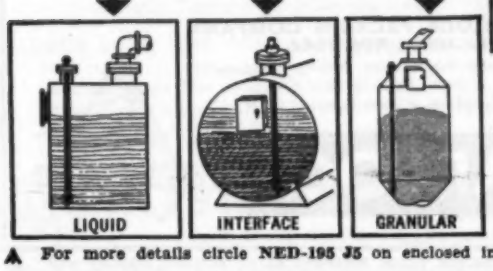


Now you can indicate level continuously with a truly simple, electronic capacitance-measuring system that removes the restrictions, headaches, and high cost of other methods. Look what TELSTOR can do:

- Measures level of liquids, powders, solids
- Measures top to bottom or limited span, or interface
- Indicates remotely or right at vessel
- Unaffected by temperature, pressure or vacuum
- Requires no moving parts . . . only one radio tube

Robertshaw-Fulton CONTROLS COMPANY

FIELDEN INSTRUMENT DIVISION
2920 N. 4th St., Dept. F, Philadelphia 33, Pa.



WRITE FOR FREE BULLETIN

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CONTROLS LEVEL ELECTRONICALLY

LEVEL CONTROLLER

Fail-Safe and unusually versatile—TEKTOR controls level at a high or low limit (or both) without the bother of complex mechanical devices.

- Can be used for liquids, powders, interface (whether conducting or non-conducting).
- Controls level as close as ⅛".
- Probe need not touch the controlled material in many level applications.
- No moving parts . . . only one radio tube.
- Equipped with switch for external alarm or control.

Robertshaw-Fulton CONTROLS COMPANY

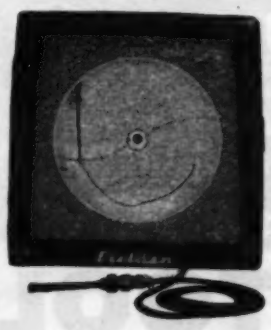
Send for technical bulletin

FIELDEN INSTRUMENT DIVISION, Dept. F, 2920 N. 4th St., Phila. 33, Pa.

▲ For more details circle NED-196 J5 on enclosed inquiry slip ▲

OFFERS NULL-BALANCE ACCURACY AT LOW COST for

- Temperature
- Pressure
- Strain
- Force
- Position
- Conductivity



Fielden

NULL-BALANCE Recorder-Controller

This instrument combines the high accuracy and stability of null-balance measuring with the low cost and maintenance of a simplified 4-unit design.

- Accuracy ±0.5%; sensitivity ±0.05%.
- Records single variable or sum, difference, or product of two linear variables.
- Operates on A.C.—no batteries or standardization.
- Can operate with electric and pneumatic controls.

Robertshaw-Fulton CONTROLS COMPANY

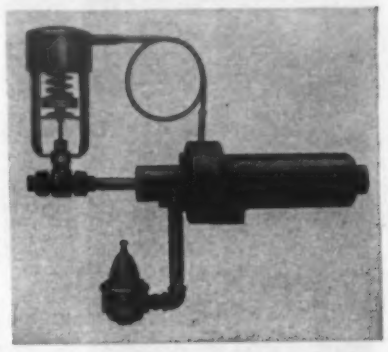
Send for technical bulletin

FIELDEN INSTRUMENT DIVISION, Dept. F, 2920 N. 4th St., Phila. 33, Pa.

▲ For more details circle NED-197 J5 on enclosed inquiry slip ▲

STEAM-WATER MIXER

injection of steam directly into water assures full use of heat



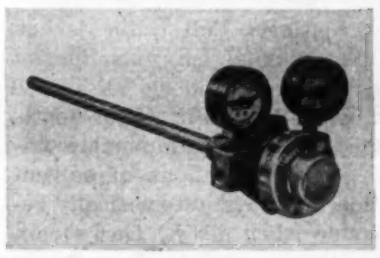
Usable wherever hot water is required, model 1360 Steam-Water Mixer is merely connected to the steam and water lines. Because steam is injected directly into the water, efficient production of hot water is obtained. Device is best suited for industrial, process or other installations where the slight noise of mixing steam and water is not objectionable. Equipment operates on steam pressures up to 125 psi. Four models are offered with capacities up to 45 gpm.

Any degree of temperature can be maintained without loss of condensation, overheating or use of traps. Available temperature ranges are 40°-100° F, 90°-150° F, 100°-160° F, 130°-190° F and 160°-215° F. Regulator is adjustable within limits of selected range. Water is heated only as it is used, and steam is not consumed except when water is drawn. Design of mixing chamber prevents stratification and false temperature indications. Made by **Robertshaw-Fulton Controls Co.**, Fulton Sylphon Div., Box 400, Knoxville 1, Tenn.

▲ For more details circle NED-198 J5 on enclosed inquiry slip ▲

PILOT CONTROLLER

operates thermostatically to control temperatures



Electroplating tanks, dyeing and bleaching machinery, chemical vats storage or instantaneous water heaters, fuel oil preheaters and sewage disposal systems are typical applications of the Fultrol pilot controller. It provides for accurate control of liquid or air temperatures. Used in conjunction with motor valves or dampers, pilot controller offers rapid response over temperature ranges of 50°-250° F or 150°-350° F.

Control action is readily reversed in the field, and temperature differential setting can be adjusted from 5° to 25° F easily by means of a screwdriver. An over-temperature or "over-run" safety feature enables unit to withstand temperatures 100° F in excess of the top end of the range, regardless of the position of the temperature adjustment. Made by **Robertshaw-Fulton Controls Co.**, Fulton Sylphon Div., Box 400, Knoxville 1, Tenn.

▲ For more details circle NED-199 J5 on enclosed inquiry slip ▲

AN AMPLIFIER SO STABLE IT NEEDS NO ADJUSTMENT!

Fielden

SERIES 80 D.C. AMPLIFIER

Here's the low-cost way to amplify low-level signals.

This amplifier is truly simple, yet it offers all the sensitivity and stability needed for accurate measurements.

- Can be used with standard milliammeters.
- Ranges as low as 0-20 microamperes or 0.5 millivolts.
- Thermocouple ranges with automatic cold junction compensation available.
- Performance unaffected by length of leads or resistance in output circuit.
- Less than ½% drift over 6-month period.

Robertshaw-Fulton CONTROLS COMPANY

Send for technical bulletin

FIELDEN INSTRUMENT DIVISION, Dept. F, 2920 N. 4th St., Phila. 33, Pa.

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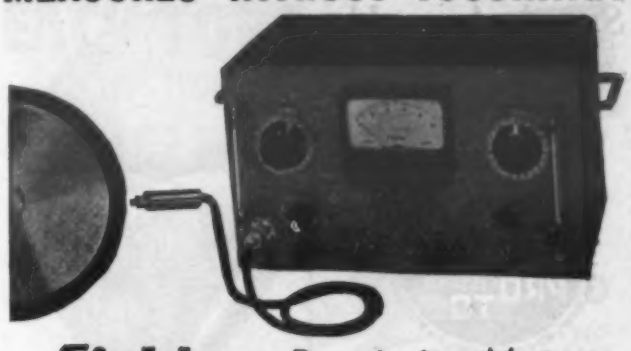
MEASURES WITHOUT TOUCHING!



Fielden Proximity Meter

Capacitance Gauge

This unique instrument now makes it possible to measure or compare dimensions, distortions, and product compositions that can't be detected mechanically.

- Detects variations as small as 1/100th microinch.
- Gauges concentricity, serves as micrometer, measures film thickness.
- Analyzes composition or contamination of non-conducting solids, liquids or gases.
- Measures minute mechanical oscillations without damping them.
- Can also be used as strain or surface gauge, torque meter, etc.

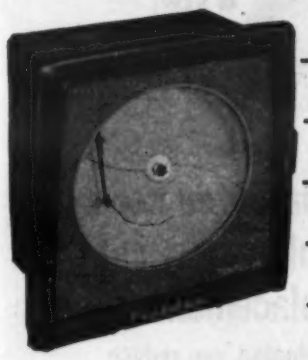
Send for free bulletin today

Robertshaw-Fulton CONTROLS COMPANY

FIELDEN INSTRUMENT DIVISION
Dept. F, 2920 N. 4th St., Philadelphia 33, Pa.

▲ For more details circle NED-201 J5 on enclosed inquiry slip ▲

• Simplifies industrial recording



- Level
- Temperature
- pH
- Tachometry
- Current
- Voltage

Fielden TEKTOLOG

Recorder-Controller

- Electronically records process variables having AC or DC outputs. Ranges 0—50 microamperes up.
- Simple to operate and maintain (only 4 basic units).
- AC operation eliminates batteries and standardization.
- Accuracy: ± 1% • Sensitivity 0.25%
- Available with electric or pneumatic controls.

LOW IN COST • HIGHLY FLEXIBLE

Robertshaw-Fulton CONTROLS COMPANY

FIELDEN INSTRUMENT DIVISION • Dept. F, 2920 N. 4th St., Philadelphia 33, Pa.

▲ For more details circle NED-202 J5 on enclosed inquiry slip ▲

Learn how to simplify measurements with Fielden simplified instrumentation

Robertshaw-Fulton CONTROLS COMPANY

FIELDEN INSTRUMENT DIVISION, Dept. F, 2920 N. 4th St., Phila. 33, Pa.

Please send me your illustrated technical bulletins on the Fielden instruments I've checked below.

- ☐ **TEKTOR** Level Control • Any material—any level.
- ☐ **TELSTOR** Continuous Level Indicator • Liquids, powders, interface.
- ☐ **TEKTOLOG** Recorder-Controller • AC or DC input signals.
- ☐ **NULL-BALANCE** Recorder-Controller • Records any variable.
- ☐ **MULTI-POINT** Recorder-Controller • Up to 24, 48, even 96 points.
- ☐ **PROXIMITY METER** • Measures dimensions, product composition.
- ☐ **SERIES 97** Electronic Temperature Control • Resistance or impedance inputs.
- ☐ **SERIES 80** D. C. Amplifier • Low level in—proportional DC out.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle NED-203 J5 on enclosed inquiry slip ▲

NEW PROTO TORQUE DRIVER

Speeds Assembly ...Prevents Rejects

Turns and torques both screws and nuts • Releases automatically at preset torque limit • Measures accurately in 4 to 80 inch-ounce range

PROTO's new Torque Driver-No. 6080-speeds production, still maintains accurate low torque on precision assemblies. Uses same torque-*limiting* principle as the PROTO Torquer. Impossible to overtorque. Especially suited for high-speed, precision assembly in electronics, communications, aircraft and similar industries. Buy Torque Drivers from your PROTO dealer, today. Send 10¢ for 68-page catalog of entire line to

PLOMB TOOL COMPANY
2275N Santa Fe Ave.
Los Angeles 54, Calif.

5589
Eastern Factory
Jamestown, N.Y.
Canadian Factory
London, Ont.

"Give your work the PROfessional TOuch"

PROTO TOOLS

For more details circle NED-206 J5 on enclosed inquiry slip

NEW! 'Sexauer' Monel Self-Locking bibb screw – 10 sizes do the work of 37!

NEW! 'Sexauer' Easy-Tite faucet washer with Fiberglas reinforcing

This nylon plug locks the screw *automatically!*

NEW! Amazing, patented screw and washer combination cuts faucet washer replacements 75%

—with each leak eliminated, you reduce water and fuel bills up to $28.80 quarterly

Most faucet washer failures are caused by wrong length screws. 'Sexauer' Self-Locking screws* and Easy-Tite washers* – used together – cut costly washer replacements 75%! You save up to $28.80 quarterly in water and fuel alone with each leak stopped. Here's how...

A screw *too short* for the tapping distorts and splits the washer when tightened; the washer works loose, is torn to shreds. If *too long*, it can't grip the washer; this ruins the washer and causes hammering in the water line.

Simplifies fitting problem—cuts installation costs

'Sexauer' Self-Locking screws eliminate the problem of misfit screws. They lock *automatically* at the required depth as the nylon plug is compressed in the faucet thread. The washer is not distorted, is held firmly.

You can re-use Self-Locking bibb screws repeatedly. Made of Monel, they resist corrosion, never rust; heads won't twist off, screw driver will not distort the slot.

Self-Locking screws save time spent in fitting the proper length – 10 sizes do the work of 37! Used with new, Fiberglas-reinforced 'Sexauer' Easy-Tites, they cut washer replacements 75%, fixtures last longer. Easy-Tites resist closing squeeze and excessively hot water, outlast ordinary washers 6 to 1!

Water and fuel savings

One dripping faucet wastes 8,000 gals. of water yearly. A pinhole size stream increases waste to 8,000 gals. in a *single month!* Here is what you save *quarterly* in stopping just *one* pinhole leak on a hot water faucet:

Fuel Saving		Water Saving	Total Saving
Oil (198 gals.)	$22.77	$6.03	$28.80
Coal (2,469 lbs.)	22.22	6.03	28.25
Gas (21,103 cu. ft.)	21.20	6.03	27.23

Save water, fuel and labor costs; conserve costly fixtures by cutting washer replacements 75%! Use *new* 'Sexauer' Self-Locking screws and Easy-Tite faucet washers. *You save every time you do!*

WRITE FOR CATALOG. New 'Sexauer' Self-Locking screws and Easy-Tite washers are just part of the line of over 3,000 'Sexauer' Triple-Wear plumbing repair parts and patented precision tools. Send for our new, 126-page Catalog H. *Write today!*

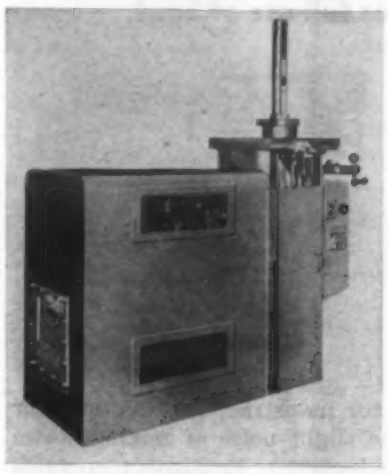
*Reg. U. S. Pat. Off

J. A. SEXAUER MANUFACTURING CO., INC. Dept. AU-95
2503-05 Third Avenue, New York 51, N. Y.

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-207 J5 on enclosed inquiry slip

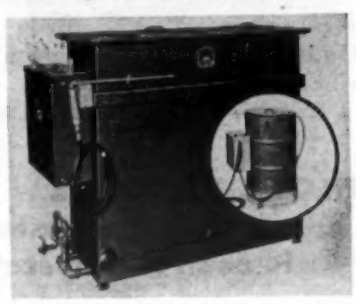
HYDRAULIC KEYSEATER
produces true, straight keyways



Exceptionally smooth performance is provided by hydraulic action in this M & M keyseater. Crosshead is actuated by a vane type pump that produces a working pull of over 7000 lb on the No. 2 machine and 9500 lb on the No. 3 model. First machine will cut keyways to predetermined lengths up to 12 in., while the No. 3 unit has a maximum of 15 in. Stroke and feed of the cutter are controlled automatically, and tool relief is also automatic. Made by **Mitts & Merrill, Inc.**, 1000 S. Water St., Saginaw, Mich.

For more details circle NED-208 J5 on enclosed inquiry slip

VAPOR SPRAY DEGREASER
in rectangular heavy-duty models



Added to Baronet vapor spray degreaser line are two rectangular shaped models designed to accommodate large sized parts and heavy work loads. Machines are fabricated of 12-gage and 3/16-in. plate and have fused phenolic interior coating. Full water jacket, offset coil condenser and manual spray equipment are used. Unobstructed working dimensions are 36 or 48 in. lengths, 18 in. width and 24-in. vapor depth. Cleaning is accomplished with noninflammable trichloroethylene vapors. Only 12 gallons of solvent are required for operation, and it is automatically reclaimed within the machine when dirty. Gas, steam or electrically heated models are available from **Baron Industries**, 241 (I.O.) West Ave. 26, Los Angeles 31, Calif.

For more details circle NED-209 J5 on enclosed inquiry slip

Heavy-Duty Hydraulic Lifts

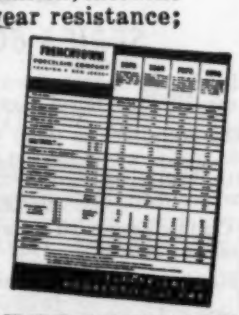
Rotary Lift Co.—Ideas and suggestions for solving innumerable lifting problems are provided in 20-page catalog RE-203 on Levelator heavy-duty oil-hydraulic lifting devices. Installation photos range from simple freight handling applications to involved aircraft testing and stage lifts, and automatic materials handling uses. Capacities of these lifts range from 1000 to 100,000 lb.

For more details circle NED-210 J5 on enclosed inquiry slip

WANTED!

We're looking for engineers whose prime responsibility is to seek ways and means to make products or parts better, more efficient and at lower cost. To you, we recommend Frenchtown *engineered* ceramics.

Very possibly you can profit from the many valuable properties of Frenchtown *Engineered* Ceramics to give you resistance to *high temperatures* and low thermal expansion; excellent mechanical strength and wear resistance; superior dielectric strength at both high and low frequencies.



This helpful 4-page bulletin contains complete data on electrical and mechanical characteristics of Frenchtown high-performance bodies. Send for a free copy today.

frenchtown PORCELAIN COMPANY
97 Muirhead Avenue | Trenton 9, New Jersey

For more details circle NED-211 J5 on enclosed inquiry slip

CUT ROUND GASKETS

Quickly, Easily, Accurately from Asbestos, Rubber or Cork Sheets

Get a GARLOCK GASKET CUTTER

This handy, precision-made tool is all you need to cut accurately round gaskets with clean, sharp edges. Cuts gaskets up to 19⅝" outside diameter. Sturdy steel box contains cutter complete with knife and centering point, extra knife and extra centering point. Send us your order today. Complete sets in lots of 1 to 5, $5.23 ea; lots of 6 or more, $4.95 ea.

THE GARLOCK PACKING COMPANY
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada Ltd., Toronto, Ont.
Branch Offices in Most Principal Cities

GARLOCK

For more details circle NED-212 J5 on enclosed inquiry slip

PRESSURE Measurement ACCURACY 0.1%

W&T PRECISION DIAL MANOMETER, FA-145

Ranges: All ranges from 0-120 inches water through 0-250 inches Hg. in two revolutions—45 inch scale.

Write today for Publication No. TP-30-A A-96

WALLACE & TIERNAN
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

For more details circle NED-213 J5 on enclosed inquiry slip

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

For more details circle NED-214 J5 on enclosed inquiry slip

Atlantic straight wheels

SAFER . . . because every Atlantic Straight Wheel 2" in diameter and larger is test-run at a minimum of 50% higher speed than its recommended operating speed . . . features special resinoid bonds capable of withstanding tremendous centrifugal forces.

FASTER . . . because Atlantic Wheels also feature a low-heat factor which permits fast, cool cutting and eliminates burning or discoloration under high speed operation.

LOWER COST, TOO! Atlantic Straight Wheels seldom have to be dressed . . . keep replacements at a minimum; operating costs at a new low. Prove it for yourself. Call your nearby Atlantic representative or write direct. Atlantic Abrasive Corp., 504 Pearl Street, South Braintree, Mass.

ATLANTIC ABRASIVE CORP.
South Braintree 86, Massachusetts

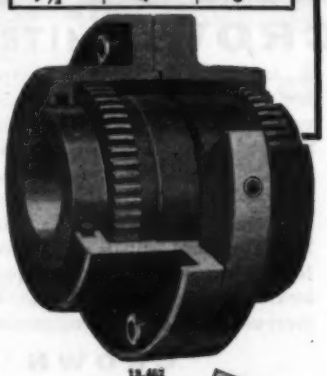
For more details circle NED-215 J5 on enclosed inquiry slip

Now you can choose a smaller, lighter, lower-cost coupling

New LINK-BELT Geared Flexible Couplings have greater bore capacity than other makes

Approx. outside dia. (in.)	Max. bore of Link-Belt coupling (in.)	Largest bore available in most leading makes (in.)
4-9/16	1½	1⅜
6	2⅛	1½
7	2¾	2
8⅜	3½	2½
9½	4	3

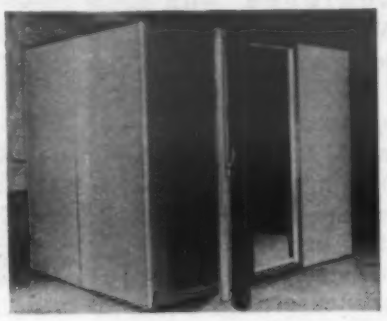
With no sacrifice of load capacity, the new Link-Belt Geared Flexible Coupling is designed to accommodate a larger shaft for a given outside diameter. That means you can often apply it where radial clearances are too close for other makes. What's more, the Link-Belt design provides for parallel and angular misalignment with minimum backlash. Get all the facts from your Link-Belt sales office or distributor. Or write for Folder 2375 to Link-Belt Company, 220 S. Belmont Ave., Indianapolis 6, Ind.



LINK-BELT
GEARED FLEXIBLE COUPLINGS

For more details circle NED-216 J5 on enclosed inquiry slip

SHIELDED ENCLOSURES
for microwave, r-f interference uses

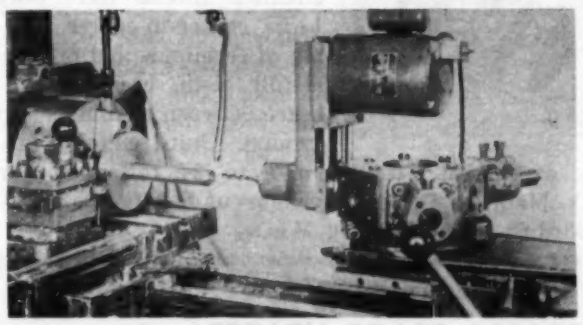


Simulation of free space for microwave testing in electronic, aviation and allied industries is major application of Microshield shielded enclosures. Additional microwave absorption characteristics are achieved in this new series by using lightweight McMillan Hair-Mat type 8 on walls, doors and ceiling. Floor absorption is provided by McMillan plastic foam Block Type B which can be walked on without loss of electrical characteristics. These materials do not affect r-f shielding characteristics of basic structure. Enclosures can be made of copper or galvanized steel sheet or screening by **Ace Engineering & Machine Co.**, Dept. NED, 3644 N. Lawrence St., Philadelphia 40, Pa.

For more details circle NED-218 J5 on enclosed inquiry slip

DRILLING ATTACHMENT
fits on lathes and screw machines

Usable on turret lathes and hand screw machines, this Tru-Hole Speedy drilling attachment is available with 715, 1550 and 3550-rpm spindle speeds. It is



powered by a ½-hp single or three phase motor. The spindle has a No. 2 Morse taper hole with tang drive, and knockout is through the shank. Spindle is mounted on Timken precision bearings, and maximum hole drilling capacity is ⅜-in. Distributed by **E. F. Vilter Sales, Inc.**, Dept. A, 4161 N. Richards St., Milwaukee 12, Wis.

For more details circle NED-219 J5 on enclosed inquiry slip

Storage Equipment

Frick-Gallagher Mfg. Co.—More than 24 new ideas in space and time-saving storage equipment are presented in 16-page illustrated catalog 702. Some of the items covered include bulk storage and warehouse racks; pallet frames; racks for conduit, fluorescent tubes, cable reels, drill rods and broaches; rotary display stands; meter and bar racks; steel shelving; parts bins; steel counters; carts and tool stands; and workbenches.

For more details circle NED-220 J5 on enclosed inquiry slip

EACH TOPS IN ITS FIELD

GUSTO ORBITAL SANDER

High efficiency on flat or curved surfaces . . . vertical or horizontal . . . even tight spots right to edges. No belts or gears. Reliable, durable sander for wood, metal, plastics, plaster, paint, etc. Largest sanding pad of any hand sander. Exclusive safety hard rubber handle withstands shocks up to 1000 volts.

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Sold and Serviced in Principal Cities Throughout U.S.A.
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Exclusive Importer
611 Broadway, New York 12, N. Y.
GRamercy 7-3757

LESTO

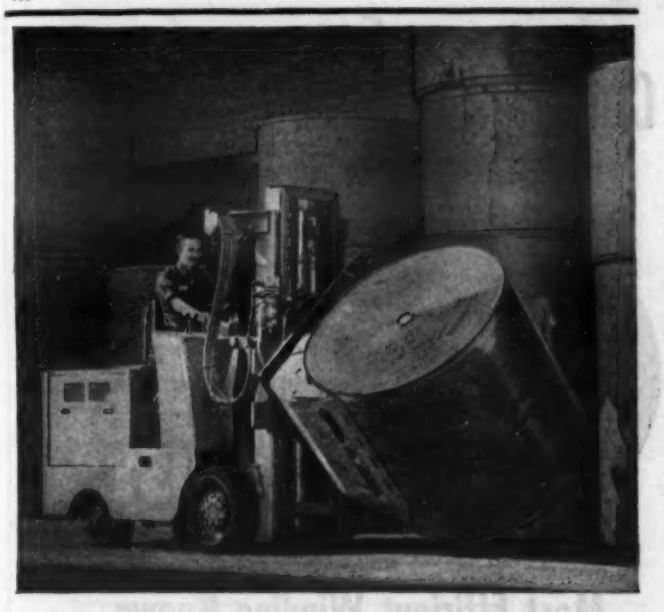
LESTO *Electric* HAND SAW

Swiss watch precision in a heavy-duty portable hand-saw! That's the secret of LESTO cutting speed and accuracy. 2300 strokes per minute cut so fine sanding is unnecessary. A true all-in-one saw: rip, scroll, bend, jig, cross-cut, coping, keyhole—cuts inside holes without a starting hole . . . cuts 2" wood beams . . . soft metals, plastics, cement sheet, etc.

LESTO *Electric* SHEARS

For all sheet-metal work up to 16 gauge. Compact design, handy shape. Perfect for hard-to-reach places. Cutting speed 5 ft./min. Weight 3¼ lbs. Larger model cuts up to 12 gauge. Weight 6½ lbs.

For more details circle NED-221 J5 on enclosed inquiry slip



You're rolling on solid quality with Goodyear Industrial Tires

When it's time to order solid Industrial Tires—either for your new trucks or for replacements—get Goodyear—and you get the extra quality that's built into every Goodyear Tire . . .

. . . The quality of the finest name in rubber—and manufacturer of America's most complete line of Industrial Tires

. . . The quality of compound—your choice of Goodyear's highly chip-resistant, fast-rolling Universal Compound or the superior oil-resisting "OR" Compound—at no extra cost

. . . The quality of five different tread designs—tops for every purpose

For more information on Goodyear quality solid Industrial Tires, see your Goodyear dealer or write: Goodyear, Industrial Tire Sales Akron 16, Ohio

SMOOTH-SOLID—for factory, warehouse and loading platform

GROOVE TREAD SOLID—built to take heavy punishment on big trucks

ALL-WEATHER TREAD—for ramps, wet surfaces and other extra-traction conditions

ALL-SERVICE TREAD XTRA CUSHION—built with compact lug design for fast, easy rolling with absolute smoothness and stability

DID YOU KNOW . . . that the leading truck manufacturers will fill your order with Goodyear Industrial Tires when you specify them?

USE THE RIGHT TIRE FOR THE JOB—BUY AND SPECIFY

GOODYEAR INDUSTRIAL TIRES

All-Service, All-Weather, Xtra Cushion—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-222 J5 on enclosed inquiry slip

handles easier — stores easier has steps on both sides—

ALCO-LITE

Ideal for maintenance, repair or other work where it is desirable or necessary for two men to use one ladder.

F900 FOLDING ALUMINUM LADDERS

Built of high tensile strength aluminum alloy, ALCO-LITE F900 Aluminum Folding Ladders are extremely light, strong and long lasting. They will not rust, rot, burn or splinter. Exclusive ALCO-LITE construction withstands the hardest industrial use. Require almost no maintenance. ALCO-LITE F900 more than meet the rigid code and tests of the ASA and Metal Ladders Association. WRITE NOW FOR FURTHER DETAILS.

heights — 4' to 14'
weights — 20 lbs. to 73 lbs.

Bottom step is braced for greater stability. Rubber feet prevent slipping.

STEP CONSTRUCTION
Steps are 4" wide, corrugated and permanently riveted — 2 rivets front and back, on both sides. Corrugated platform is 16" x 8".

OTHER ALCO-LITE PRODUCTS—
Step Ladders
Folding Ladders
Platform Ladders
Shelf Ladders
Warehouse Ladders
Extension Ladders
Scaffold Ladders
Conveyors
Stages
Combination Ladders
Fire Ladders

ALUMINUM LADDER COMPANY
Dept. 3
Worthington, Pa.

Please send me further information about F900 and other ALCO-LITE Aluminum Ladders.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

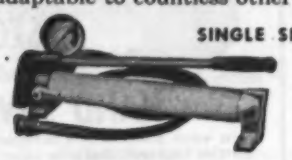
Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

For more details circle NED-217 J5 on enclosed inquiry slip

3 NEW HYDRAULIC PUMPS FOR INDUSTRY

OTC

Compact, self-contained pumps for quick delivery of hydraulic power for production or maintenance. Precision engineered and built by OTC for use with their well known Hydraulic Tools. Readily adaptable to countless other applications.



SINGLE SPEED HAND-OPERATED

Remote control operates vertically or horizontally. Develops 10,000 P.S.I. Finger tip control valve. Weight: 15 pounds only.

ELECTRICALLY DRIVEN

For production and maintenance—assures continuous power flow with overload valve. Develops 11,000 P.S.I. Single piston, "V" belt drive, reciprocating type. ½ HP. 60 cycle, 1725 RPM. Other motors optional.

TWO SPEED HAND-OPERATED

Low or high pressure by changing handles. Two pistons ¾" and ½" develop 3,000 or 10,000 P.S.I. Pump units without reservoir for pressures up to 20,000 P.S.I. also available.

See your jobber or write for complete data.

OWATONNA TOOL COMPANY

436 CEDAR ST. • OWATONNA, MINNESOTA

▲ For more details circle NED-223 J5 on enclosed inquiry slip ▲

Get Constant Tension Winding *From Start To Finish*

Most Efficient Winding Known

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "Alquist" Winder. It's in a class by itself.

OPERATES ON A.C.

Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. You connect it directly to your rewind shaft. It is entirely independent of the main machine drive. You connect it to your present three-phase power line—no transformers or converters to bother with. Then you set a knob for the desired tension and the Alquist takes over.

AUTOMATICALLY SENSES TORQUE

From start to finish of your rewind operation, the "Alquist" constantly and accurately maintains the desired tension—protects even the most delicate materials from stretching, breaking or contracting. Automatically, the "Alquist" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Constant or tapered tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE

Power utilization of the "Alquist" is as high as 80%, approximately four times greater than other types of winders. This means important savings in energy. Maintenance is as slight as with any normal A.C. motor—there are no brushes or tubes to contend with. The "Alquist" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible—connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

PROVED PERFORMANCE

The "Alquist" already has been proved in winding textiles, rubber, foil, cable, wire, plastics, paper—materials of almost any type or weight. And it can be adapted to meet any production requirement. Send for our new HOBBS-ALQUIST brochure. Hobbs Manufacturing Co., 41 Salisbury St., Worcester 5, Mass., N. Y. Office at 132 Nassau St., Chicago Office at 549 W. Washington Blvd.—Winders-Hand & Power Shears—Die Presses—Slitters—Corner Cutters.

HOBBS MANUFACTURING CO.

EST. 1908

41 Salisbury St., Worcester 5, Mass.

Dept. 368-5

Please send me, free of all obligations, a copy of your new HOBBS-ALQUIST brochure.

Name _____ *Title* _____

Company _____

Street & Number _____

City _____ *Zone* _____ *State* _____

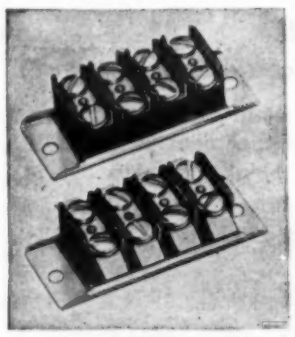
▲ For more details circle NED-224 J5 on enclosed inquiry slip ▲

L-P INDUSTRIAL TRUCKS for indoor-outdoor material handling

Equipped with Waukesha engines designed to use L-P gas fuel and equipped with Catalytic Exhaust, Hi-Duty lift trucks are economical to operate and require minimum of engine maintenance. The Catalytic Exhaust system absorbs all carbon monoxide gas fumes, so that trucks can be used in food processing, cold storage, factories and warehouses without need for special ventilation. Made by **Transitier Truck Co.**, Dept. 2, 5475 N. Lagoon Ave., Swan Island, Portland, Oreg.

▲ For more details circle NED-225 J5 on enclosed inquiry slip ▲

TERMINAL BLOCKS 1 to 24 terminals per block



Conservatively rated at 300 v, 25 amp, type MA and MAT terminal blocks consist of separate molded bakelite terminal sections joined with plated steel channel. Blocks have only ½-in. center-to-center spacing of terminals and provide a full ⅜-in. creepage distance between terminals and ground. Units can be factory assembled with from 1 to 24 terminals per block. Made by **Curtis Development & Mfg. Co.**, 3250 N. 33rd St., Milwaukee 16, Wis.

▲ For more details circle NED-226 J5 on enclosed inquiry slip ▲

PORTABLE SPACE HEATER burns kerosene or fuel oil

Compact enough to be used in confined areas, this Master B-100 portable heater is mounted on wheels and can be lifted easily by one man. It develops up to 100,000 Btu per hr, with a ¼-hp combined fan and pump motor that delivers 500 cfm of warm air. It has 12-hr fuel capacity, stainless steel combustion chamber, runs on 110-115-v 60-cycle ac and burns kerosene or No. 1 or No. 2 fuel oil. Automatic ignition lights it at flick of a switch. Made by **Master Vibrator Co.**, 362 Stanley Ave., Dayton 1, O.

▲ For more details circle NED-227 J5 on enclosed inquiry slip ▲

SEE the complete Shakeproof line!

SPRING WASHERS by SHAKEPROOF

Free! Write today for this catalog . . . contains full description and specifications on a wide variety of types and sizes of spring washers.

SHAKEPROOF®

"Fastening Headquarters"

DIVISION OF ILLINOIS TOOL WORKS

St. Charles Road, Elgin, Illinois

▲ For more details circle NED-229 J5 on enclosed inquiry slip ▲

CROWN MITRE GEAR UNITS

. . . are an ideal solution to all types of right angle needs, and are especially adaptable to confined areas. They're small, rugged, quiet, and precision made. Crown Gear Units have matched "Zerol" hardened gears which are mounted in double shielded ball bearings, and completely enclosed. Re-lubrication, if necessary, is easily accomplished, and four or five mounting flanges provide easy installation.

Special models will be engineered and quotations submitted for any specific problems. Write today for the name of your local distributor. Crown Gear Units are available almost everywhere. Write for engineering details.

CROWN GEAR

a division of Harrington & Richardson, Inc.

329 PARK AVENUE, WORCESTER 10, MASS.

Over 120 leading distributors in 43 States

Sold in Canada by H. & R. Arms Co., Ltd., Montreal 23, P. Q.

▲ For more details circle NED-230 J5 on enclosed inquiry slip ▲

COMPLETE service unit (above) is made of 18.8-gauge stainless steel. Finishing strips are securely fastened to unit by Du Pont Industrial Rivets (right).

SODA-FOUNTAIN MANUFACTURER REPORTS:

SECURE, SPEEDY FASTENING OPERATIONS *with Du Pont Industrial Rivets*

Manufacturers of fountains, ice-cream cabinets and related equipment, the Dunhill Soda Fountain Corp. of Brooklyn, N. Y., knows how to prevent fastening problems from slowing down production. Their answer—like that of many firms throughout the country—is Du Pont Industrial Rivets.

Why? Because these Rivets are so simple to use . . . have such exceptionally high tensile strength. Just insert and heat—Rivet expands and firmly locks the parts together. These rugged *one-piece* fasteners are set only from the head side . . . up to 25 a minute. No after-finishing is needed.

Whether you're fastening metal to metal, or to such nonmetals as plywood, leather or plastics, it will pay you to investigate the outstandingly effective performance of Du Pont Industrial Rivets. Give them a test in your plant soon.

For further information on these time and money savers, contact your mill supply house, or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Del.

DU PONT *Hi-Speed* **INDUSTRIAL RIVETS**

A Product of Du Pont Explosives Research

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

▲ For more details circle NED-228 J5 on enclosed inquiry slip ▲

NEW COLD PROCESS ROOFKOTER CUTS ROOF REPAIR IN HALF!

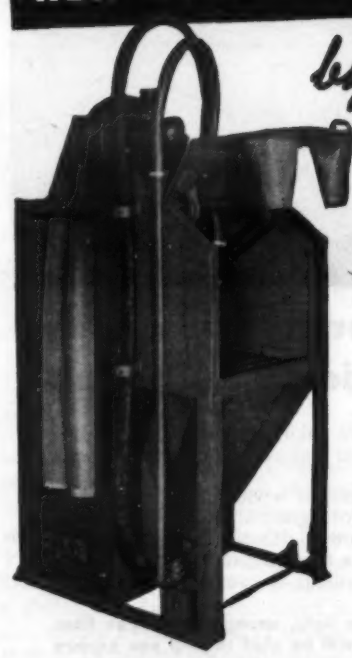
Repair time is NOW—how's *your* roof? Tropical Cold Process Roofkoter and your own unskilled labor gives you a firstclass reconditioned roof. Cut repair costs in half—get long-lasting, "live" roof. Flexes with temperature changes. No cracking or drying out. Add years of weather-tight roof-life—*the Tropical way!*

FREE: Your business letterhead request brings you money-saving book "Saving Old Roofs". Write today!

TROPICAL PAINT COMPANY
1124-1212 W. 70th St., Cleveland 2, Ohio
Heavy-duty Paints Since 1883 — Subsidiary of Parker Rust Proof Co.

▲ For more details circle NED-232 J5 on enclosed inquiry slip ▲

NEW BLAST-FILTER COMBO by SLY



cuts cleaning costs of small metal parts

Combining a blast cabinet and dust collector in minimum space, the Sly Blast-Filter Combo offers advantages never before obtainable in cleaning small metal parts (both ferrous and non-ferrous), in machine shops, tool and die shops and other places. It can be adapted also to soft grit blasting.

Designed to fit against a wall or in a corner, this unit has a work area 18" x 30" and requires a floor space only slightly larger. The height of the work area has been planned for greatest efficiency. The unit is easily accessible from two sides. The easy-lift overhead door requires no additional space. Automatic spring assures positive action. Operation is simple and easy by a spring treadle — a slight pressure of the foot starts it; lifting of foot stops it.

The Blast-Filter Combo has an integral suction cloth-type dust collector. The illustration (with inspection door removed) shows the filter and its easy access. An outstanding feature is filter cleaning of air before reaching the fan thereby protecting the fan from wear. The dust hopper is available by merely unfastening five wing nuts.

Manufacturers of: Dust Control Systems, Blast Cleaning Equipment, Tumbling Mills, Industrial Ovens.

THE W. W. SLY MANUFACTURING CO.
SINCE 1874
4748 TRAIN AVENUE • CLEVELAND 1, OHIO
New York • Chicago • Philadelphia • Rochester • Birmingham • Cincinnati
Buffalo • St. Louis • Minneapolis • Detroit • Denver • Los Angeles • Syracuse

▲ For more details circle NED-233 J5 on enclosed inquiry slip ▲

END-MOUNTED MOTORS feature short, round frames

Short, round - frame, flange-mounted motors in 1 to 15-hp sizes provide for weight savings, improved performance and compact design in driven machine. They have standard NEMA flange dimensions for interchangeability of mounting, and can be furnished in either open type or totally-enclosed fan-cooled type for vertical or horizontal operation. Made by **Century Electric Co.,** 1812 Pine St., St. Louis 3, Mo.

▲ For more details circle NED-234 J5 on enclosed inquiry slip ▲

BARREL PARTS FEEDER usable for production operations

Stationary ring cover is feature of this barrel feeder which is designed for heavy duty, production runs. It provides a minimum of three times the holding capacity of other rotary type feeders and minimizes the tumbling of pieces. Because of its open face design, the hopper can be loaded easily by means of a conveyor, elevator or other method. It can be used for feeding parts to grinders, presses, primary and secondary machining operations, welding machines and assembling equipment. It is furnished in 24 and 30-in. diameters. Made by **Detroit Power Screwdriver Co.,** 2819 W. Fort St., Detroit 16, Mich.

▲ For more details circle NED-235 J5 on enclosed inquiry slip ▲

PRESSURE SWITCH affords control up to 100 psi

Accurate control of pressures up to 100 psi is provided by this pressure switch. It is available in single and double terminal models. Encased in stamped steel, hermetically sealed case, it affords close on and off settings and consistently holds precise cut-in and cut-out settings under test installations. A spring-loaded diaphragm in a special seat design can be equipped with optional additional overload protection in the form of a stem-located dampener mechanism. It is available with ¼ or ⅛-in. threaded fitting. Made by **Rochester Mfg. Co.,** 114 Rockwood St., Rochester 10, N. Y.

▲ For more details circle NED-236 J5 on enclosed inquiry slip ▲

Use Parker hydraulic accumulators for less maintenance, longer life

- Piston type . . . compact.
- 3000 psi operating pressure.
- 11 sizes, from 10 to 1155 cubic inch capacity.
- Simple, strong construction.
- Provides steady power, absorbs pressure shocks.
- Permits smaller pump.
- Can function as leakage or thermal expansion compensator.
- Can serve as auxiliary or emergency source of power.

For further details, request Catalog 1536

Parker
Hydraulic and fluid system components

Order from your Hydraulics Jobber—or Industrial Hydraulics Division, Section 251-U, Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

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HERE'S ALL YOU NEED DO . . . specify the part, the metal, the finish and when needed. Shenango does the rest, and does it right! Take these printing press rolls of *centrifugally cast Meehanite Metal.* Close-grained and stronger, they are better able to resist distortion and deflection—perfect for heavy-duty, long-life performance. Shenango's specialty is quality and economy in rings, rolls, sleeves, liners, bearings, bushings, virtually any annular or symmetrical part. Get *all* the facts. Write: Shenango-Penn Mold Company, Centrifugal Castings Division, Dover, Ohio (Executive Offices: Pittsburgh, Pa.).

SHENANGO CENTRIFUGAL CASTINGS
COPPER, TIN, LEAD, ZINC BRONZES • MONEL METAL
ALUMINUM AND MANGANESE BRONZES • NI-RESIST • MEEHANITE METAL

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3 NEW LINES OF CORDS AVAILABLE

Now Anaconda offers a new full line of cords for *each* major application. You can select the *one* best suited for your needs—based on good engineering and sound economy. SECURITYFLEX* Cords for severest applications; INDUSTRIAL "all-purpose" Cords for hard usage; SERVICE Cords used with most appliances. All are made with typical Anaconda emphasis on quality! Call your electrical wholesaler or the man from Anaconda today. And send for Anaconda's new free bulletin: "Portable Cords." Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

*Reg. U. S. Pat. Off.

ANACONDA®

▲ For more details circle NED-239 J5 on enclosed inquiry slip ▲

In 1 minute

The Verifax Copier, Kodak's sensational new office aid, gives you—

3 copies of a letter, office record, news clipping or other item. Your copies will be dry, photo-exact . . . can be made even under fluorescent lighting by anyone.

only 4¢ apiece

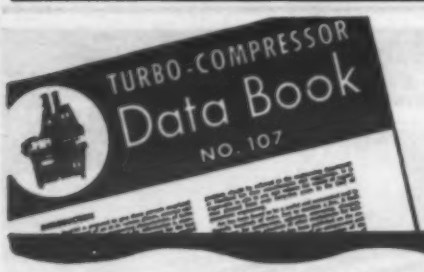
. . . a surprisingly low price. *And here's the secret:* a unique Kodak development lets you get 3 or more copies from just *one* sheet of Matrix Paper. And you expose the document you're copying *only once.*

You should see a demonstration of this *completely different* copier in your office soon. What you'll save on *re-typing alone* quickly covers its $240 cost. Write for free Verifax folder and names of near-by dealers.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.
Price quoted is subject to change without notice.

Kodak

▲ For more details circle NED-240 J5 on enclosed inquiry slip ▲



HIGH VOLUME

Low Pressure Air

HAS 100 USES IN YOUR PLANT

4 oz. to 10 lbs.
35 to 20,000. c.f.m.

Spencer Turbos are used extensively for agitation, scale and liquid removal, cooling and drying. They have been a standard for heat treating for many years. These and many other uses are described in the Spencer Turbo Data Book. Ask for Bulletin No. 107-D.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

300-E

▲ For more details circle NED-241 J5 on enclosed inquiry slip ▲

SPECIFIED

by top purchasers for factories...warehouses... schools...government jobs...institutions!

PABCO

MASTIPAVE

FLOORING

Super-Tough, Non-Slip, Resilient, Low-Cost!

Top purchasers demand the best equipment for the job... it saves money, maintenance and accidents, too! That's why they *specify* Pabco Mastipave ...the tough, long-wearing floor that costs little to install, little to maintain, and is *so* safe! In rolls, 36" wide; tiles, 9"x9". Terra Cotta or Black.

Only PABCO makes MASTIPAVE!

SEND FOR FULL INFORMATION TODAY!

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19
Mail to Dept. D (nearest office)

GENTLEMEN: Without cost or obligation to me, please send your folder, "Every Building Needs Pabco MASTIPAVE."

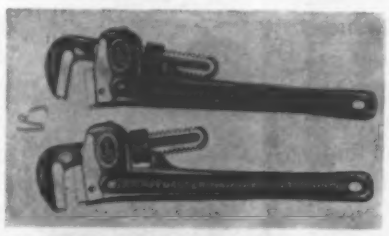
NAME_____

ADDRESS_____

CITY_____ STATE_____

▲ For more details circle NED-242 J5 on enclosed inquiry slip ▲

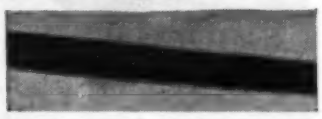
HEAVY DUTY PIPE WRENCH
spring gives double action operation



Made in 6 to 48-in. sizes with straight handles and 8 to 18-in. sizes in offset type, Pipemaster wrenches feature a Z-shaped spring which is notched to fit under a pin running transversely through the housing and acting as a pivot. Spring gives positive double action in the wrench operation; the bite and release are easier and faster; and racheting is improved. Release of pressure on the handle allows the jaw to spring back, releasing the wrench, yet leaving the jaws in position to be replaced on the pipe. Upper picture shows jaw position with no pressure on the handle, while lower picture shows position with full pressure on handle and the jaws biting into the pipe. Made by **Erie Tool Works,** 733 W. Twelfth St., Erie, Pa.

▲ For more details circle NED-243 J5 on enclosed inquiry slip ▲

CURVED-EDGE STEEL STRAPPING
for packaging applications



Particularly suited for banding paper rolls and similar products, Edge-Grip steel strapping has a curved edge. It is made in ⅜-in. width in 20-gage steel, and is readily applied with available strapping tools. Made by **Allegheny Steel Band Co.,** Dept. N, Box 716, Pittsburgh 30, Pa.

▲ For more details circle NED-244 J5 on enclosed inquiry slip ▲

LP-GAS TRACTOR
fuel tank is readily changed

Wide spread materials handling operations can be performed by this model A-460 Banty industrial tractor because it is powered by an LP-gas engine which creates very little poisonous carbon monoxide and no noxious fumes and smoke. Standard units employed in fuel system consist of filter, carburetor, solenoid valves, regulator, carburetor adaptor and supply tank. Engine is designed specifically to use LP-gas fuel and has Stellite valves and inserts with positive valve rotors for long life. Made by **Mercury Mfg. Co.,** 4038 S. Halsted St., Chicago 9, Ill.

▲ For more details circle NED-245 J5 on enclosed inquiry slip ▲

JAM SESSION

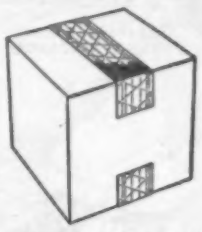
If your bulk materials are sitting it out, what you need is a Cleveland Vibrator attached to your storage bins. The firm but gentle shaking action keeps the individual particles in motion preventing packing and arching. Materials like sand, chips, concrete — or even vegetables and candy — will come charging out of their hoppers like wall flowers after a stag line. So remember if your bulk materials are slow, make them real gone with a Cleveland Vibrator.

Available in eight sizes; noiseless or standard; air or electric. For full information and literature write:

The Cleveland Vibrator Company
2744 Clinton Ave. • Cleveland 13, Ohio

▲ For more details circle NED-246 J5 on enclosed inquiry slip ▲

The SNAKE TAPE Idea



..use 2 strips only!

NOW ACCEPTABLE for Rail Shipments under U.F.C. Rule 41

CUTS LABOR 2/3 because you seal only the two center seams!

IT'S STRONGER because *reinforced* Snake Tape has strap-like strength. *Strength* you'll find in no other gummed tape because it's reinforced with *rayon* yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbence.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for FREE sample of Angier Snake Tape now.

Free - 15 yd. sample

ANGIER CORPORATION • Framingham 30, Mass.

▲ For more details circle NED-247 J5 on enclosed inquiry slip ▲

Solid fibre beats out wood, metal, plastic on tough job

The highly competitive baking industry is now using solid fibre bread trays to reduce shipping costs from bakery to retail outlet.

Why fibre board instead of wood, metal, or plastic? It's less costly — and a lot lighter than wood or metal. It can be attractively printed. It's sturdy enough to be used again and again. It's moistureproof — can be kept outside, cleaned when soiled. It can be fabricated in most any shape.

Maybe there's a use for light, strong, inexpensive fibre board in your field. Gair will be glad to help you explore the possibilities. Write us.

GAIR — SHIPPING CONTAINERS
FOLDING CARTONS • PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17, N.Y.

▲ For more details circle NED-248 J5 on enclosed inquiry slip ▲

NEW! DPDT SUBMINIATURE RELAY by FILTORS, INC.

ENGINEERED FOR CRITICAL AIRBORNE AND GUIDED MISSILE APPLICATIONS

THIS RELAY MEETS THE REQUIREMENTS OF MIL-R-5757B AND MIL-R-25018 (USAF).

Two Form C contacts are rated at 2 amps, resistive, at 29 V.D.C. or 115 V.A.C.

Withstands operational shock of 50 G's and operational vibration of 5 to 2000 CPS at 10 G.

AMBIENT TEMP. RANGE: —65°C to +125° C WEIGHT: 1.3 ounces
OPERATE TIME: 10 millisec. or less. RELEASE TIME: 5 millisec. or less.

Send for NEW CATALOG

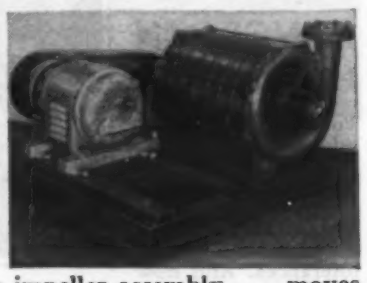
FILTORS, INC. 32 Sagamore Hill Dr. Port Washington, L. I.

▲ For more details circle NED-249 J5 on enclosed inquiry slip ▲

LAMSOM BILLMYRE

offers centrifugal blowers in cast iron or heavy steel

Lamson Billmyre Centrifugal Blowers are encased in heavy steel or ¼" cast iron housing. Designed for air or gas, they range from 100 to 25,000 C.F.M. . . . from ½ to 500 hp.



Only 1 part . . . the impeller assembly . . . moves. No internal lubrication is required. Heavy duty ball bearings of standard manufacture need lubrication at most 4 times yearly. Are mounted on accessible, open-type brackets outside the housing.

Air is clean, oil-free. Delivered without pulsation. Pressure or vacuum remains nearly constant at all capacities . . . with horsepower proportional to actual air volume delivered.

Lamson Billmyre Centrifugal Blowers are assembled from parts made by Lamson. Delivery is rapid.

For further information on Lamson Billmyre Air Blowers, Exhausters, and Gas Boosters, write today for bulletin B-6 to Lamson Corporation, 2029 Lamson Street, Syracuse 1, N. Y. *Advt.*

▲ For more details circle NED-250 J5 on enclosed inquiry slip ▲

Eliminates Seizing and Galling.....

"John Crane" High Temperature Thred-Gard protects threaded surfaces against the welding action caused by extreme heat. Studs, bolts, etc., can be easily disconnected, even after prolonged service at temperatures to 1200° F. . . . greatly reduces dismantling time—permits the re-use of threaded connectors many times over.

Assembly-wise, Thred-Gard decreases wrench torque . . . allows connections to be drawn up to a greater degree of tightness without undue stress or strain.

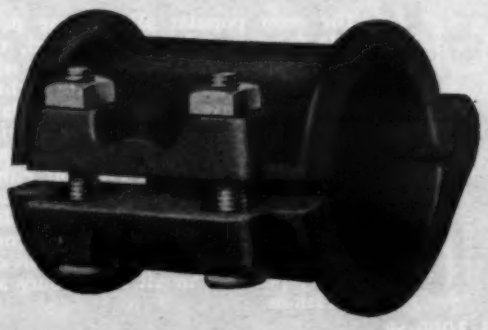
Test Thred-Gard on your application at our expense. Send for sample and literature. Crane Packing Co., 1811 Cuyler Ave., Chicago 13, Illinois. *In Canada: Crane Packing Co., Ltd., 617 Parkdale Ave., N., Hamilton, Ont.*

JOHN CRANE CRANE PACKING COMPANY

▲ For more details circle NED-251 J5 on enclosed inquiry slip ▲

SKINNER-SEAL EMERGENCY PIPE CLAMPS

For Stopping Leaks in Pipe Lines



An instant, permanent repair under any operating condition. No pressure too high. Anyone can apply in a few moments. Made in all sizes, ½" to 12", for steel and C.I. pipe. Stocked by practically all supply stores.

M. B. SKINNER CO., SOUTH BEND 21, IND.

▲ For more details circle NED-252 J5 on enclosed inquiry slip ▲

SUN-POWERED BATTERY

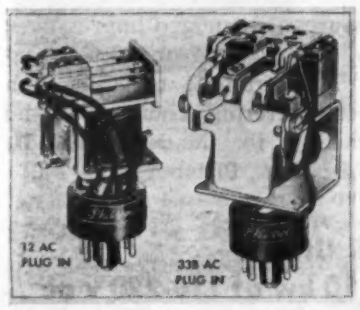
develops 32-milliampere current

Conversion of sunlight directly into electricity is brought about by this commercially available solar battery. Actually a silicon wafer about the size of a half-dollar, it is available for development purposes. It will develop a current of 32 milliamperes. When wired in series, enough power can be developed to run a small motor or power a radio. Present uses include connection to a micro-relay to actuate the starter of a 10-hp motor, powering midget radio transmitters with an 8-mile range and boosting power during daylight hours on rural telephone lines. Further research is expected to turn up many new uses. Solar cell cost is $25. Made under Bell Telephone Laboratories—Western Electric Co. license by **National Fabricated Products, Inc.**, Dept. N-D, 2650 W. Belden Ave., Chicago 47, Ill.

▲ For more details circle NED-253 J5 on enclosed inquiry slip ▲

PLUG-IN RELAYS

designed for convenient replacement



These two plug-in type relays are designed for easy replacement and servicing. Phil-trol 33B is a general-purpose power relay, available in alternating or direct current, two, three or five pole models. Smaller type 12 Phil-trol relay operates on up to 230 v in either alternating or direct current types. Made by **Phillips Control Corp.**, Dept. NED, Joliet, Ill.

▲ For more details circle NED-254 J5 on enclosed inquiry slip ▲

CORRECTION

In the description of the Lectromag precision coating thickness tester (*Item NED-538 G5, July '55*) it was erroneously stated that this portable instrument could be used for measuring "nonmetallic coatings on carbon steel or iron." Actually, the instrument can determine the thickness of any nonmagnetic coating on an iron or carbon steel base. It can thus be used for checking such coatings as copper, cadmium, brass, zinc, chromium and silver as well as nonmetallic finishes. This versatile tester is made by **Lea Mfg. Co.**, 16-A Cherry Ave., Waterbury 20, Conn.

▲ For more details circle NED-255 J5 on enclosed inquiry slip ▲

CESCO RIGHT... before your Eyes!

Cover Goggles

20% Larger

Wear them over all modern glasses. Wide surface contoured edges eliminate nose pressure, seal out flying particles. Change the 50 mm Super-Safety lenses from front, quickly. Well-ventilated to reduce fogging. Comfort-King headband is easy to adjust; can't snag hair; won't kink or curl; requires 30% less tension.

See your CESCO distributor about the 548-C and many other CESCO safety goggles and glasses. There are types for every job.

Send TODAY for CESCO literature

CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Louisville, Mexico City D.F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita

▲ For more details circle NED-256 J5 on enclosed inquiry slip ▲

this time-study saves you money!

BUSINESSES SAVE HOURS EACH DAY

you save 16 seconds every time you press a button

Actual time studies taken in hundreds of businesses show that an average of 18 seconds is required to make an "inside" speech contact through the switchboard. With *your own* AMPLICALL "clear line" *internal* communication system—you get *2-second speech contact* within and between departments. AMPLICALL frees busy switchboards for important outside calls—keeps personnel *on the job*, keeps talk terse—saves hours each day for the average business. AMPLICALL saves you money—pays for itself. There is a system to fit your special needs. Get the full facts today!

SEE YOUR PHONE BOOK For your nearest AMPLICALL specialist, look under "Intercommunication" in your classified phone directory—or write direct for full information.

ELECTRONIC AMPLICALL INTERCOMMUNICATION

RAULAND-BORG CORPORATION
3515-D Addison Street, Chicago 19, Illinois

▲ For more details circle NED-257 J5 on enclosed inquiry slip ▲

336,000 miles of extrusions!

Our extruders have turned out enough plastic and rubber extrusions to reach to the moon and halfway back. In compiling this vast experience General Tire's Industrial Products Division has supplied thousands of original equipment manufacturers with just about every known type of extrusion. No job is too large, too small or too complicated for our design and production staff. Perhaps *you* can benefit from the fantastic extrusion mileage we've accumulated down through the years.

For literature or further information write to The General Tire & Rubber Company, Wabash, Indiana, Department A-2.

"From Plans to Products in Plastics and Rubber"

THE GENERAL TIRE Industrial Products Division WABASH INDIANA

▲ For more details circle NED-258 J5 on enclosed inquiry slip ▲

New QMB Saflex Plug-in Distribution Panelboard

Right Off Your Distributor's Shelf!

Exactly the Power Panelboard you want— when you want it. Your Square D distributor stocks boxes, interiors, fronts and plug-in units which can be quickly assembled to meet virtually any specifications.

Plug-in Units are installed easily on tubular bus bars. The solid neutral can be changed in minutes.

Write for Bulletin SD-29. Address Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

ASK YOUR ELECTRICAL-DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle NED-259 J5 on enclosed inquiry slip ▲

THE NEW WAY TO

MARK EQUIPMENT...

with GRAVOflex

the first chip-proof, flexible engraving stock on the versatile Engravo

So simple to engrave Gravoflex. Lettering will stand out permanently on contrasting background. No paint needed.

10,000 Engravographs in use for engraving on metals and plastics. Only the Engravograph has these patented features:

• Adjustable for 15 ratios. • Self-centering holding vise. • Automatic depth regulator. • Adjustable copy holders.

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Engravograph Booklet IM-26 • Gravoflex Booklet G-26

NEW HERMES ENGRAVING MACHINE CORP.
1139 UNIVERSITY PLACE NEW YORK 3, N. Y.

Respiratory Protection

1 2 3 6 5 4 7

8 Respirators in 1!
(AO R2000)

FOUR chemical cartridges, THREE re-usable dust filters, and ONE chemically treated throwaway dust filter can all be used in one basic Respirator for protection against many hazards: 1. Throwaway all-dust* filter 2. Re-usable all-dust* filter 3. Re-usable toxic dust* filter 4. Re-usable pneumoconiosis-producing and nuisance dust filter 5. Organic vapor chemical cartridge 6. Acid gases chemical cartridge 7. Combined organic vapor and acid gases chemical cartridge 8. Ammonia and alkali vapor cartridge. Respirator may also be used for paint spraying with organic vapor cartridge and auxiliary filter. Your nearest AO Safety Products Representative can supply you.

*dusts not significantly more toxic than lead

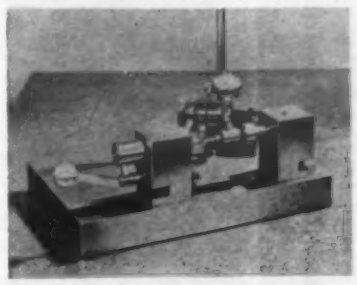
American Optical

T. M. REG. BY AMERICAN OPTICAL COMPANY

SOUTHBRIDGE, MASS. BRANCHES IN PRINCIPAL CITIES

▲ For more details circle NED-260 J5 on enclosed inquiry slip ▲

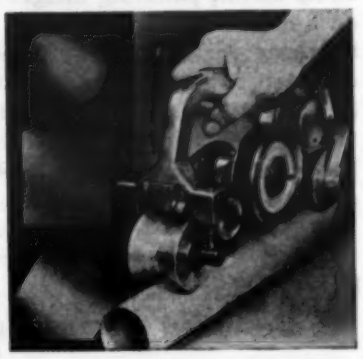
MINIATURE BENCH CENTER
checks small parts concentrically



Checking and machining of tiny parts, measuring tool wear, checking chamfer angles, and similar testing and inspection operations are facilitated with this miniature bench center. It measures 3½ in. high and 9 in. long. Accuracy is within 0.0005-in. when used on machine tool table or surface plate. Made by **Transicoil Corp.**, Worcester, Montgomery County, Pa.

▲ For more details circle NED-261 J5 on enclosed inquiry slip ▲

BAR & TUBE PRINTER
hand unit prints on various shapes



Hand-operated No. 230 bar and tube printer automatically adjusts itself to practically any size of round, square, flat or multi-sided surface. Improved machine has a high absorption material in its ink fountain which distributes practically all colors of ink uniformly and assures unsmudged impressions. Contour molded rubber type can be quickly set up in the printing wheel. Type from ⅛ to ⅜-in. high is available, as are special lettering, trademarks and symbols. Printer weighs 6½ lb. Made by **Jas. H. Matthews & Co.**, 3943 Forbes St., Pittsburgh 13, Pa.

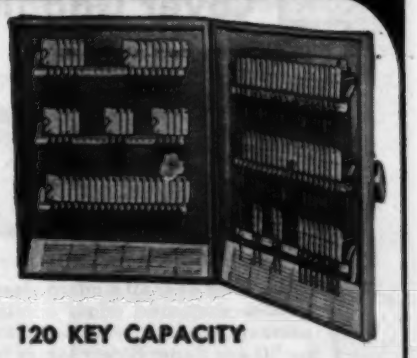
▲ For more details circle NED-262 J5 on enclosed inquiry slip ▲

PORTABLE POWER UNIT
delivers up to 10 kw at 110-220 v ac

Use of electric power tools and motor driven machinery in locations remote from power lines is possible with this Mo-Bil-Ac portable source of 110-220-v ac. It utilizes the engine of the vehicle in which it is mounted as the prime mover, and it delivers up to 10 kw of electricity at commercial frequencies, either single or polyphase. Equipment includes a two-pole alternator, pulley type drive, magnetic amplifier type regulator and selenium rectifier to provide alternator excitation. Windings are encapsulated for protection against moisture, dust and vibration. Made by **Miehle Printing Press Mfg. Co.**, Star-Kimble Motor Div., 214 Bloomfield Ave., Bloomfield, N. J.

▲ For more details circle NED-263 J5 on enclosed inquiry slip ▲

STOP
HUNTING FOR KEYS



120 KEY CAPACITY

Here's real "key insurance" in a compact KE-CABINET. Made of 20 gauge cold rolled steel with suitable hardware to provide maximum key security. Equipped with numbered KE-TAGS of durable, vulcanized fibre. KE-CABINETS come in two sizes to hold 60 to 120 keys and 100 to 200 keys. The cabinet is finished in modern office grey.

For further information write
CUSHMAN & DENISON MFG. CO.
153 West 23rd St., New York 11, N. Y.

KE-CABINET

▲ For more details circle NED-264 J5 on enclosed inquiry slip ▲

PANGBORN HYDRO-FINISH

For easier handling, added efficiency, look to the new Pangborn Hydro-Finish. Hydro-Finish cleans and finishes molds and dies in minutes, holding fine tolerances. And now it offers many new benefits! Pangborn has done away with the pump; air jet sluriators now keep the abrasive in suspension. This means a lower investment and fewer moving parts. Optional equipment includes a loading stand that simplifies handling, washing and inhibitor application. The cabinet has been redesigned for more efficient operation. These and other advantages make the Pangborn Hydro-Finish ideal for precision cleaning and finishing.

For full details on Hydro-Finish, write for Bulletin 1403 to: PANGBORN CORP., 2400 Pangborn Boulevard, Hagerstown, Md. *Manufacturers of Blast Cleaning and Dust Control Equipment.*

Pangborn
BLAST CLEANS CHEAPER

▲ For more details circle NED-265 J5 on enclosed inquiry slip ▲

GREAVES GEARS

1 or 1000 made to your exact specifications

Complete production facilities for spur, helical, bevel and worm gears, worms, pinions and leadscrews—metallic, non-metallic—all sizes.

Greaves is geared for action . . . ready to get your order out right on time. Whether you order one or one thousand gears . . . there's no waiting . . . no worrying about delivery. This means less down time . . . more productive time . . . more profit time. Depend on Greaves for all your gear requirements.

WRITE OR WIRE US FOR ESTIMATE

GREAVES MACHINE TOOL CO.
2302 EASTERN AVENUE CINCINNATI 2, OHIO

▲ For more details circle NED-266 J5 on enclosed inquiry slip ▲

McGILL

lamp guards

STAND THE WEAR AND ABUSE OF HEAVY USE

The most popular all purpose portable lamp guard ever produced, the McGill 7000 series, has extra heavy steel wires electrically welded with a chromate finish over a heavy zinc plate. Pliable molded rubber handles provide cord seal and strain relief disk. Lampholders are 660 watt 250 volt either plain or waterproof. No-Rol feature. Available with or without Levolier switch and 18-2-SJT black rubber cord. Will last many times longer than ordinary portable in all heavy duty applications.

McGILL 7000-SR

Send for McGILL Catalog No. 49-A

50th Anniversary

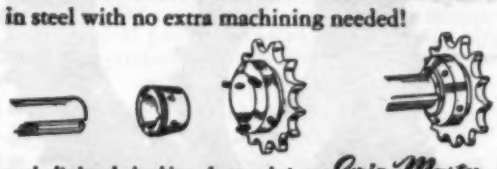
YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

▲ For more details circle NED-267 J5 on enclosed inquiry slip ▲

answer to better low-cost power transmission

Write today for the first really Engineered approach to the problem of supplying custom sprockets "off-the-shelf". Low installation cost and low maintenance cost. All sizes in steel with no extra machining needed!



your shaft size + bushing + sprocket = Grip-Master stock delivery

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POWER TRANSMISSION
ROLLER CHAINS AND SPROCKETS
REPRESENTATIVES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES
CULLMAN WHEEL COMPANY, 1333 ALTGELD ST. CHICAGO 14, ILLINOIS

▲ For more details circle NED-268 J5 on enclosed inquiry slip ▲

STEAM TRAP VALVE SAVES YOU MONEY

Your steam-heated equipment can turn out more production because of this little stainless steel valve.

It is the only moving part in a Yarway Impulse Steam Trap, and *it floats on the condensate load.* When steam is turned on, the little valve opens wide . . . discharges condensate and air *continuously* and brings the equipment *to production temperature in the shortest possible time.* After that, it passes, with a pulsating action, all condensate as it forms—*keeps a maximum, steady temperature in the equipment.* Result to you—more production per day.

Other Yarway Impulse Steam Trap advantages—small size, low initial cost, easy installation, low maintenance, stainless steel construction, and quick availability from over 200 local industrial distributors.

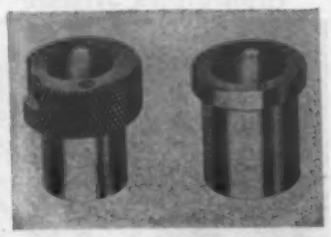
Over 900,000 Yarways have been sold to nearly all industries. Write for free Yarway Trap Book T-1740.

YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY impulse steam trap

▲ For more details circle NED-269 J5 on enclosed inquiry slip ▲

DRILL JIG BUSHINGS
of solid tungsten carbide



Solid tungsten carbide drill jig bushings are now available to industry with full drill bearing surfaces and in all A.S.A. standard tolerances and types. Bushings for special requirements are also offered. Advantages of tungsten carbide include up to 50 times longer wear, reduced down time and resistance to rust and corrosion. Made by **Acme Industrial Co.,** Dept. NED, 200 N. Laflin St., Chicago 7, Ill.

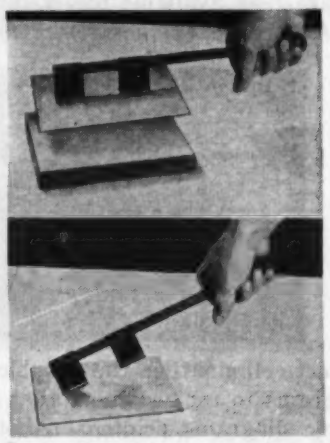
▲ For more details circle NED-270 J5 on enclosed inquiry slip ▲

DRUM DUMPER
manual and electric lift models

Transferring of the contents of one container into another is facilitated with the Tubar dumper, offered with either manual or electric lifts with a capacity of 750 lb. Manual model has a double-acting, variable stroke hydraulic pump and the electric model operates on a standard 6-v automotive battery. Latter model is furnished with a charger. Both models have a floor lock and optional forks for pallet and skid dumping. Dumping heights are 36, 48 and 60 in. Made by **Uhrden, Inc.,** 508 Grant St., Dennison, O.

▲ For more details circle NED-271 J5 on enclosed inquiry slip ▲

MAGNETIC HAND TOOL
for sheet steel handling, feeding



Steel sheet, blanks or formed parts can be picked up by this permanent magnet Lifter and Feeder and held safely for feeding operations. To break contact and release the stock, the tool is turned slightly to either side. Other uses include handling hot or cold parts and separating stacked sheets. Magnetic strength can be increased or reduced by positioning the grippers anywhere along the bar. Made by **Multifinish Mfg. Co.,** Magnetool Div., Dept. NED, 26341 W. Eight Mile Rd., Detroit 19, Mich.

▲ For more details circle NED-272 J5 on enclosed inquiry slip ▲

SAVES TIME on lighter-duty handling and storage

Automatic small parts painting.

Now, at low cost, your smaller manufacturing and processing operations can have full benefit of overhead handling and storage. With new A-F Trol-e-veyor, you can save valuable floor space, reduce handling time. And Trol-e-veyor gives you all the advantages of proven heavy-duty designs, at a new low price!

Components immediately available from stock, installation quick and low-cost. Optional 8", 12", 16" or 20" trolley spacing. Handles loads up to 160 lbs.

Write today for our new TROL-E-VEYOR BULLETIN.

A-F Conveyors
Engineered Conveyor Systems
Packaged Conveyors—Wheel, Roller, Belt, Trolley

The Alvey-Ferguson Co., Dept. HA-9, Cincinnati 9, Ohio and Azusa, California

▲ For more details circle NED-273 J5 on enclosed inquiry slip ▲

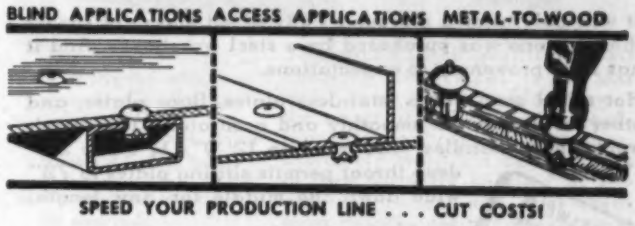
LOOK HOW EASY... AND FAST RIVETING CAN BE WHEN YOU USE DRIVE RIVETS!

SOUTHCO

Rivet and Mfg. Patented.

a hammer is the only tool
...drive like nails
...automatic "pull-up" action

Fastest for:
BLIND APPLICATIONS ACCESS APPLICATIONS METAL-TO-WOOD



SPEED YOUR PRODUCTION LINE . . . CUT COSTS!

For complete data, write Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS ©1955 Whenever two or more parts are fastened together.

▲ For more details circle NED-274 J5 on enclosed inquiry slip ▲

No Levigation Required
with *Linde* FINE ABRASIVES

These fine alumina powders are directly calcined at a carefully controlled temperature to assure a uniform particle size that makes levigation unnecessary. Eliminating this preparatory step cuts polishing time and saves abrasive. Uniform particle size also assures an excellent, scratch-free finish on materials ranging from metallographic specimens to gem stones and noble metals.

Depending on the application, these powders can be used direct from the container or mixed with water or other vehicles to make a thin slurry or heavy paste. Users have also compounded them with waxes to make a convenient stick form. LINDE Fine Abrasives are available in two types. Type A removes stock faster than Type B, but Type B produces a superior finish.

For detailed information on the properties of these polishing powders, call or write your nearest LINDE office.

Linde Air Products Company
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities

"Linde" is a registered trade-mark of Union Carbide and Carbon Corporation

▲ For more details circle NED-275 J5 on enclosed inquiry slip ▲

Added Evidence that — Everyone Can Count on VEEDER-ROOT

This Veeder-Root Reset Magnetic Counter (AC or DC) is actuated through electromagnets. And it may be connected in series with any device having a contact arrangement . . . like the specially designed Veeder-Root Electrical Contactor at the left, which insures positive operation of the counter, either in oscillation or connected directly to a revolving shaft . . . with the counter placed at *any* distance from the machine or process on which the count is required.

VEEDER-ROOT INC. Hartford 2, Conn.

▲ For more details circle NED-276 J5 on enclosed inquiry slip ▲

ALL SHEARS WERE COMPARED

'...STEELWELD WAS BOUGHT

It was only after a thorough study of all makes of shears that this one was purchased by a steel warehouse. And it has fully proven up to expectations.

Hot rolled steel plates, stainless plates, floor plates, and other metals are cut smoothly and accurately. This Steelweld Shear handles mild steel to 12'-0"x ¾". The 36" deep throat permits slitting plates to 72" wide down the middle for any length.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
6650 E. 282nd St., Wickliffe, O.

STEELWELD SHEARS

▲ For more details circle NED-278 J5 on enclosed inquiry slip ▲

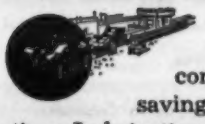
ALEMITE OIL-MIST

saves $480 in coolant

plus...

2,400 gallons of water a month

on a single rolling mill!

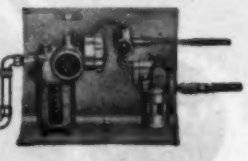


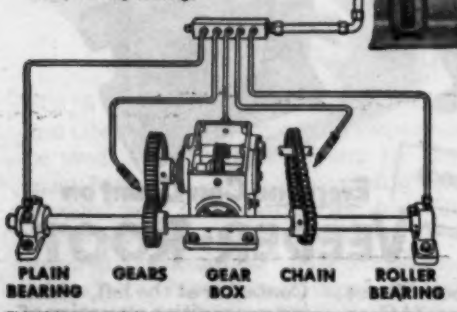
Actual dollar savings of one steel company—plus even more impressive savings in lubricant, maintenance, downtime. Lubrication time was cut 83%—product spoilage from excess lubrication halted! Expensive bearings now *run cool*. No more danger of high operating temperatures turning $3,500 bearings into scrap!

ONLY AUTOMATIC OIL-MIST LUBRICATION OFFERS ALL THESE ADVANTAGES!

- Extends bearing life
- Stops oil drippings
- Cuts oil consumption up to 90%
- Gives automatic, continuous lubrication
- Protects from contamination
- Saves man-power

ALEMITE OIL-MIST is an automatic, enclosed system which atomizes oil into mist, distributes it to bearings in even, cooling coating.





Delivers oil to bearings 3 ways—mist, liquid or spray!

Free! the complete story on Alemite Oil-Mist and how it can be applied to ANY machine. Specifications, typical installations, case histories. Get yours now!

Alemite Division of Stewart-Warner, Dept. L-85
1850 Diversey Parkway, Chicago 14, Illinois

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

▲ For more details circle NED-279 J5 on enclosed inquiry slip ▲

GRINDING WHEEL BALANCER uses adjustable master weights

Practically any size of grinding wheel can be precision balanced with this Driver portable balancing unit. Kit consists of a freely revolving ball bearing arbor which attaches to the grinder spindle. A wheel puller loosens and pulls the wheel directly onto the arbor. Balancing is then accomplished with adjustable weights that are locked in place when balance is attained. Made by **Crestline Products, Inc.**, 308 Paramount Bldg., Ft. Wayne 2, Ind.

▲ For more details circle NED-280 J5 on enclosed inquiry slip ▲

TANK INSPECTION LIGHT is permanently mounted inside tank

Developed to light the interior of metal tanks and kettles, this type V observation light condulet permits visual inspection of the contents during processing through observation windows. Its strong heat-resisting glass globe is practically breakproof. Because it is vaportight, vapor cannot enter the conduit system, even when the globe is removed. It can be used with 50 to 100-w lamps. Light can be mounted with rivets, or it can be welded or brazed to the tank. Made by **Crouse-Hinds Co.**, 7 North St., Syracuse, N. Y.

▲ For more details circle NED-281 J5 on enclosed inquiry slip ▲

WIRING DIAGRAMS printed on pressure-sensitive tape

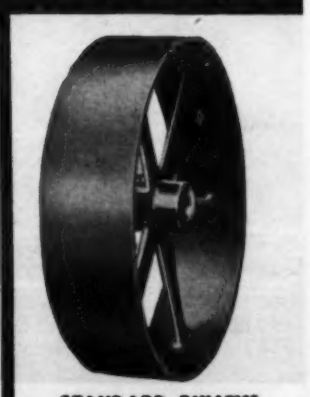
Wiring diagrams printed on pressure sensitive tape are now available for affixing directly to apparatus. Affixed diagrams thus cannot become misplaced or

lost, eliminating the trouble of requesting new diagrams to replace those that cannot be located. Sample diagrams printed on both acetate film and flat-back pressure-sensitive tape are available from **Labelon Tape Co.**, Dept. OS, 450 Atlantic Ave., Rochester 9, N. Y.

▲ For more details circle NED-282 J5 on enclosed inquiry slip ▲

stock or standard pulleys

STOCK "SURE-GRIP" PULLEYS



STANDARD PULLEYS

STOCK "SURE-GRIP" PULLEYS

Cast iron with straight or crown face. One-piece flanged and split tapered hub permits easy installation and removal from shaft, four hubs take care of bore range from ½" to 4¼". "Sure-Grip" Pulleys are available in sizes from 4" to 36" O. D., in face widths from 2½" to 12". From Stock. SEND FOR BULLETIN #297 REV.

STANDARD PULLEYS

Cast Iron. Available in all types; standard flat belt pulleys, solid or split, single or multiple arm, and flanged, if required. Bronze bushed or ball bearing equipped loose pulleys, conveyor, taper cone and special designs made to customer's specifications. WRITE FOR DETAILED INFORMATION.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PA.

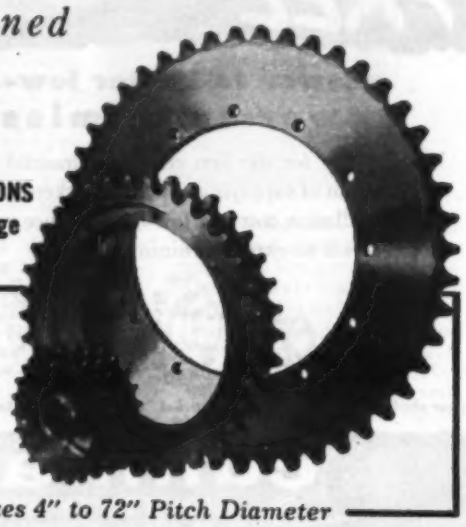
Cambridge, Mass. Newark, N. J. Dallas, Texas Cleveland, O.

▲ For more details circle NED-283 J5 on enclosed inquiry slip ▲

SPROCKETS

with INDUCTION HARDENED TEETH *last longer . . . cost no more than flame hardened teeth*

SEND YOUR SPECIFICATIONS no tool charge

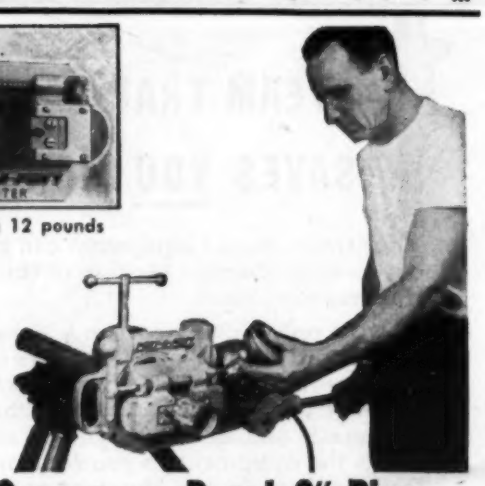


Sizes 4" to 72" Pitch Diameter

CARDWELL MFG. CO., INC.
BOX 2001, DEPT. 1 • WICHITA, KANSAS

▲ For more details circle NED-284 J5 on enclosed inquiry slip ▲

Cutter weighs 12 pounds



Cut, Groove, or Bevel 2" Pipe

right on the job . . . in 30 Seconds!

The Port-A-Pony Pipe Cutter gives a clean beveled cut on ½" to 2" pipe that's easy to thread and easy to join.

Attaches to the Port-A-Pony Power Drive in 10 seconds.

Blades are quickly changed. Exclusive Safety Guide prevents gouging and burring.

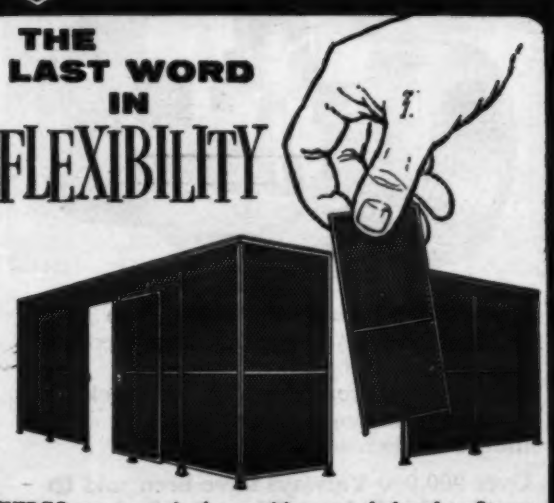
Get all the facts—write today for full information.

THREAD-EZY MFG. COMPANY WRITE FOR DETAILS
341 North Brady Street Corunna, Michigan

▲ For more details circle NED-285 J5 on enclosed inquiry slip ▲

WIPCO WIRE PARTITIONS

THE LAST WORD IN FLEXIBILITY



WIPCO woven-steel wire partitions are designed to fit any area, regardless of height, location of doors and other openings, etc. Easy and economical to erect, your own men can put them up without outside help! Use them over and over again, salvaging each individual section for use in new erections. Available in *standard* sections from stock—or *custom-built* for any requirement, WIPCO partitions are easy to paint and clean—require little or no maintenance! For increased efficiency and flexibility at lower cost, get the facts on WIPCO wire partitions!

Write Today for Bulletin P-55!
WIRE & IRON PRODUCTS INC.
1727 SIXTEENTH STREET, DETROIT 16, MICHIGAN

▲ For more details circle NED-286 J5 on enclosed inquiry slip ▲

are the answer to

FAST, ECONOMICAL MIXING

Because of the unique design of its mixing chamber, and the 4-way mixing action which brings two or more substances together, the Sturtevant Dry-Batch Blender does a more rapid mixing job than other machines and, at the same time, it is complete and thorough in every particular. The substances may be of different weights and physical properties, and may be either dry, partly dry, or a mixture of both. Write for bulletin today.

Compare These Advantages

- Only one lever controls both receiving and discharging for simplicity of operation. Hand wheel operates rack and pinion slide at feed opening.
- 4-way mixing action speeds production . . . assures thorough blends.
- "Open-door" accessibility permits easy, fast, thorough cleaning.
- Single aperture drum for both intake and discharge.
- Unusually efficient scoops pick up materials to effect thorough mixing as drum revolves.
- 9 models . . . a size for every job . . . from 10 cu. ft. to 900 cu. ft. batches.

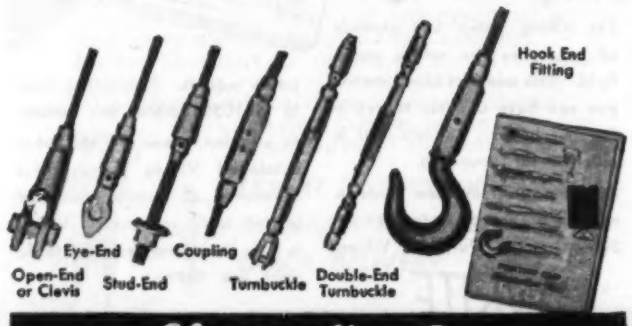
STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASSACHUSETTS
DESIGNERS & MANUFACTURERS OF CRUSHERS • GRINDERS • SEPARATORS
CONVEYORS • MECHANICAL DENS AND EXCAVATORS • ELEVATORS • MIXERS

▲ For more details circle **NED-287 J5** on enclosed inquiry slip ▲

Cut out needless re-roping costs

USE ELECTROLINE WIRE ROPE FITTINGS

In minutes, ordinary labor can install Electroline fittings that will hang on for all time. Prolong wire rope life by damping vibration stresses thus eliminating wire rope fatigue at the fitting. Write for Electroline Catalog. It points out many savings—no cost.



Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

▲ For more details circle **NED-288 J5** on enclosed inquiry slip ▲

NEW AC RELAY

TYPE "R"

Withstands Vibration Up to 10G at 5 to 55cps.
•
Shock Resistance 20G, energized 15G, non-energized

COILS: For all standard voltages up to 220 volts, AC. Average coil consumption, 2.5 VA.

CONTACTS: 6PDT up to 5 amps. at average 7.5 VA; 4PDT up to 5 amps. at average 2.5 VA; DPDT up to 10 amps. at average 7.5 VA; fine silver. Other contact materials available.

SIZE: 1½" x 1 11/16" x 2¼", depending on contact combinations.

Available hermetically sealed or with dust covers.

Send For Bulletin "R"

Comar ELECTRIC COMPANY
3349 ADDISON STREET, CHICAGO 18, ILLINOIS

RELAYS • SOLENOIDS • COILS • TRANSFORMERS • SWITCHES • HERMETIC SEALING

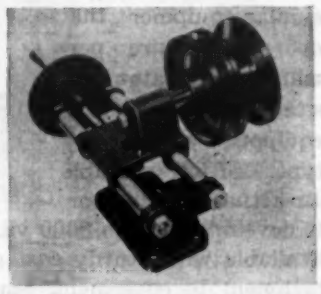
▲ For more details circle **NED-289 J5** on enclosed inquiry slip ▲

PORTABLE AIR COMPRESSOR for powering pneumatic equipment

Compact, self - contained and portable, model 100 electric air compressor delivers up to 3.5 cfm of air at pressures up to 100 psi. Operating without need for tank, it plugs directly into any 110 or 220-v ac line. Sealed ball bearings eliminate need for lubrication. It is supplied with intake air filter, ⅓-hp capacitor type motor, overload protector and UL-approved cord and plug. Made by **Modernair Corp.**, Dept. NED, 400 Preda Ave., San Leandro, Calif.

▲ For more details circle **NED-290 J5** on enclosed inquiry slip ▲

VARIABLE SPEED DRIVE PULLEY permits speed variation up to 6.8:1



Ease of adaptation to different drive configurations is feature of this Hi-Ratio compound type variable speed pulley. Needle bearing mounted on hardened and ground countershaft, pulley has speed variation as high as 6.8 to 1, accomplished by moving the countershaft between the driving and driven variable-pitch sheaves. Made by **Equipment Engineering Co.**, Dept. NED, 2853 Columbus Ave., Minneapolis 7, Minn.

▲ For more details circle **NED-291 J5** on enclosed inquiry slip ▲

INDUSTRIAL HOSE REEL can be hand, air or electric powered

Loose, tangled hose in traffic and work areas is prevented when mounted on this hose reel that can be installed out-of-the-way. Available for up to 3-in. diameter hose and in models with air driven, explosion-proof electric motor or hand crank rewind, reel is connected to fluid source and is ready for immediate use. Angle iron frame anchors the reel in a cabinet or against a wall or girder. Rolled edge disks and full drum protects hoses from scuffing or cutting. Made by **Clifford B. Hannay & Son, Inc.**, 724 Main St., Westerlo, N. Y.

▲ For more details circle **NED-292 J5** on enclosed inquiry slip ▲

technical data on synthane laminates

The *Synthane* catalog is an excellent source book for engineering data on laminated plastics. This catalog supplies the specifications for all standard grades of *Synthane*. It covers *Synthane* sheets, rods, tubes, molded-laminated, molded-macerated and fabricated parts. It includes a helpful section of "dos and don'ts" in design for use of laminated plastics. You are welcome to a copy; just send in the coupon below.

SYNTHANE
SYNTHANE CORPORATION
N.E. River Road, Oaks, Pennsylvania

Please send me a copy of the complete Synthane catalog.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle **NED-293 J5** on enclosed inquiry slip ▲

★ Heavy gray iron casting, accurately machined surfaces.

★ Power factor—15 times air line pressure of 5 to 150 lbs.

★ Throat clearance to center of 10" diam. circle.

★ Ram clearance 0 to 5", stroke 5/8", table 5" x 5".

This useful, high quality No. 80 SPEEDY AIR PRESS is the last word in air power engineering—the result of 34 years of specialization in diaphragm compression. Extremely sturdy, it does dozens of jobs formerly handled by expensive presses—and does them more quickly, easily and economically. Operated by Speedy Foot Control, Hand, or Fingertip Valves. Order from your supplier or write direct.

Write for New Catalog of Speedy Air Tools and Accessories

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle **NED-294 J5** on enclosed inquiry slip ▲

Large process plant saves hours in locating grounds with the

BRUNT FAULTFINDER

"After a recent storm, the ground lights indicated a ground which could have been in one of several buildings. The ground was located in 30 minutes (using the BRUNT FAULTFINDER) in a feeder line junction box, which had become wet during the storm". So writes Mr. Lionel Cole, electrical supervisor of Westvaco Chemical Div. of Food Machinery & Chemical Corporation, Carteret, N. J. He adds that previously, "—we located grounds by isolation and due to our continuous operation, this method took several hours, sometimes even days".

Equipment shutdowns while searching for power line grounds are costly and *unnecessary*—if you have a Brunt Faultfinder to eliminate guesswork.

The Brunt Faultfinder is a combination ground detector and fault locator that can be operated by one man. Locates grounds on normally ungrounded circuits up to 600 volts a.c. or d.c., without shutting down equipment. There are no sensitive meters needing constant adjustment. Can be used in dark or noisy locations. Traces overhead lines without climbing. Priced from $400 up, express prepaid.

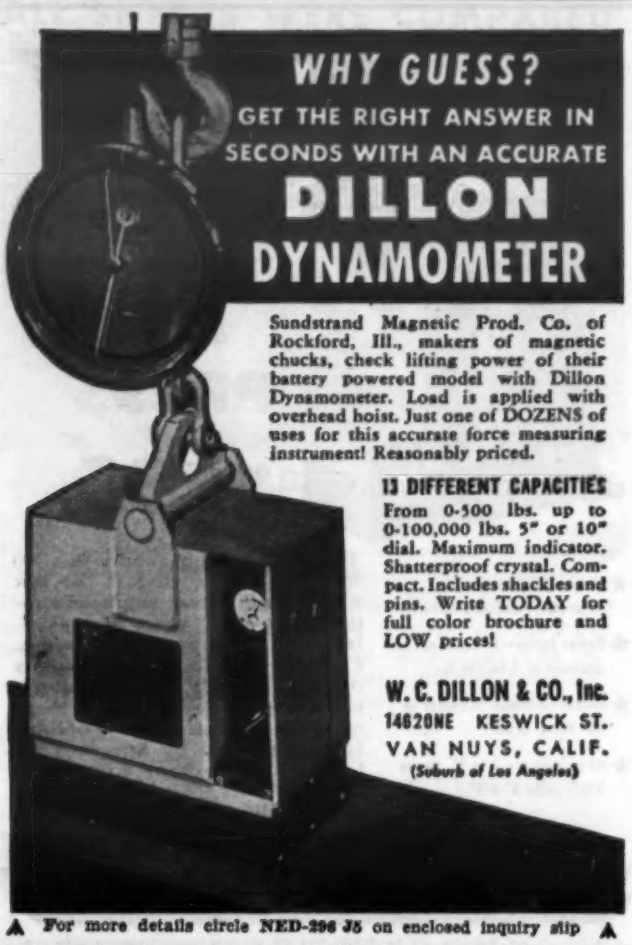
A FEW USERS OF THE BRUNT FAULTFINDER ARE:

American Cyanamid Co.
Bakelite Co.
Cities Service Oil Co.
Ford Motor Co.
General Electric Co.
Gillette Safety Razor Co.
International Paper Co.
Johns-Manville
Procter and Gamble Co.
Raytheon Mfg. Co.
Socony-Vacuum Oil Co.
Swift and Company

Order direct today or send for descriptive booklet.

PARR
MANUFACTURING CORP.
40 AUSTIN ST.
NEWARK 5, N. J.

▲ For more details circle **NED-295 J5** on enclosed inquiry slip ▲



WHY GUESS?
GET THE RIGHT ANSWER IN SECONDS WITH AN ACCURATE
DILLON DYNAMOMETER

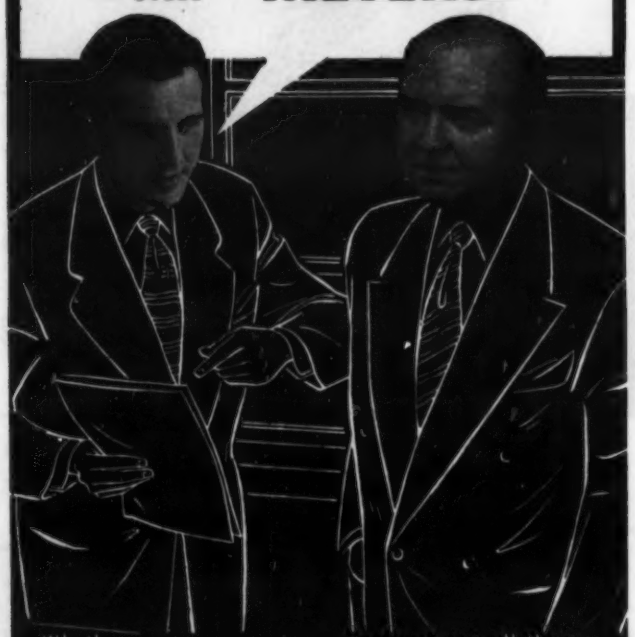
Sundstrand Magnetic Prod. Co. of Rockford, Ill., makers of magnetic chucks, check lifting power of their battery powered model with Dillon Dynamometer. Load is applied with overhead hoist. Just one of DOZENS of uses for this accurate force measuring instrument! Reasonably priced.

13 DIFFERENT CAPACITIES
From 0-500 lbs. up to 0-100,000 lbs. 5" or 10" dial. Maximum indicator. Shatterproof crystal. Compact. Includes shackles and pins. Write TODAY for full color brochure and LOW prices!

W. C. DILLON & CO., Inc.
14620NE KESWICK ST.
VAN NUYS, CALIF.
(Suburb of Los Angeles)

▲ For more details circle NED-296 J5 on enclosed inquiry slip ▲

"Measuring CORROSIVE LIQUIDS is no problem with NIAGARA STAINLESS STEEL METERS"



Whether you're measuring caustic soda, acids, molten sulphur or many other corrosive liquids, you want reliable measurement all the time. NIAGARA METERS — made of type 316 stainless steel — resist damage from a wide range of corrosive products. Maintenance is kept to the absolute minimum because of the unusual simplicity in construction of NIAGARA METERS.

If you process or use liquids of a corrosive nature, it will be to your advantage to investigate NIAGARA. Send in the Data Request blank below, today.

BUFFALO METER CO.
2903 MAIN STREET
BUFFALO, N.Y.

Gentlemen:
Please send me complete information on the use of economical NIAGARA METERS, based on the data below:
Liquid _____ Pressure _____ p.s.i.
Temp. _____ °F.
Flow rate _____ g.p.m.
Maximum batch _____ gals.
Name _____
Company _____
Address _____

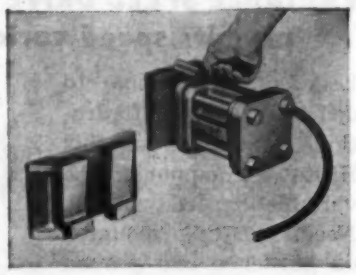
▲ For more details circle NED-297 J5 on enclosed inquiry slip ▲

COOLANT TRANSFERS
introduce coolant to hollow drills

One-piece spindle with transfer housing comprises type DA high pressure coolant transfers used to convert vertical drilling equipment to gun drilling techniques. By introducing coolant under high pressure through hollow drill, holes can be drilled with conventional drill press equipment to close tolerances and high finishes. Adapters are normally furnished with specified Morse taper shank and straightbore socket to accept gun drill. Speeds to 10,000 rpm and pressures to 1000 psi are possible. Made by **Sealol Corp.**, 203 Post Rd., Providence 5, R. I.

▲ For more details circle NED-298 J5 on enclosed inquiry slip ▲

PORTABLE VIBRATOR
is heavy duty pneumatic unit



Portable bins, trucks, concrete forms and similar equipment that do not require permanent vibrator installation can be equipped with this type LSRRH portable air-actuated vibrator. It develops 7000 to 8000 vibrations per minute and is available with sturdy cast steel bracket for easy attachment to equipment. Made by **Cleveland Vibrator Co.**, 2744 Clinton Ave., Cleveland 13, O.

▲ For more details circle NED-299 J5 on enclosed inquiry slip ▲

FORCED DRAFT OVENS
200 and 260° C temperature ranges

Moisture determinations, ageing tests, curing and conditioning, preheating and hot air sterilizing are applications for three forced - draft Thermo-Circulator ovens. They are offered in 200° and 260° C temperature ranges, 11 x 13 x 13 and 16 x 20 x 18-in. sizes, and with steel or aluminum interiors. Walls are heated by external clamped-on heaters. Temperatures are controlled with hydraulic thermostats that are sensitve to ±1° C. Other features are built-in blower, diffuser walls for uniform air distribution, silicone door gaskets, Marinite heat barriers and piano type hinges. Made by **Labline, Inc.**, Dept. NE, 3070-82 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle NED-300 J5 on enclosed inquiry slip ▲

FASTER Cleaner cut-off!

This fast, accurate machine by Stone combines all the advantages to make your cut-off operations more profitable.

Model M-35
Cut-off Machine

- Cuts ferrous or non-ferrous solids in 2 to 4 seconds per square inch.
- Geared-in-head motor, exclusive Stone feature, delivers full power to cutting edge.
- Leaves mill-like finish with tolerances of ±.005.
- Cuts bar stock, pipe, tubing, structurals and extrusions.
- Adjustable for 45° cutting —either direction.
- Capacity — Ferrous 1½" solids and 2½" pipe or structurals. Non - Ferrous — 2½" solids and 3" tubing and extrusions.

Machinery by Stone includes a complete line with many optional features. Let our representatives discuss your requirements with you. No cost or obligation; simply write or phone.

"Cut-off machinery by Stone . . . represented in every major industry throughout the world."

STONE MACHINERY CO., INC.
71 FAYETTE ST., MANLIUS, N. Y.

▲ For more details circle NED-301 J5 on enclosed inquiry slip ▲

TA-5063(LM)

With B&W Alloy Steel Mechanical Tubing

. . . How to simplify parts fabrication with B&W alloy steel tubing is explained in Technical Bulletin 360. Write for your copy today.

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.; Milwaukee, Wisc.: Seamless Tubing, Welded Stainless Steel Tubing
Alliance, Ohio: Welded Carbon Steel Tubing

▲ For more details circle NED-302 J5 on enclosed inquiry slip ▲

NEW

28 page Viking General Purpose Pump Catalog

The Viking pump line exceeds all others in the rotary pump field. This one fact alone means you can have a pump to really fit your needs . . . one that is efficient for your job.

Send today for the new 28-page catalog giving complete data on 306 General Purpose Viking pump models. Capacities from ½ to 1050 gallons per minute.

In addition, there are 450 other cataloged Viking pumps, plus thousands of special designed models to fit your needs. Viking is truly the pump designed to do your job better.

WRITE today for Catalog Section Bg.

VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING"
See our catalog in Sweets

▲ For more details circle NED-303 J5 on enclosed inquiry slip ▲

if the load is light screen it right with a MIGHTY-MITE

SINGLE & DOUBLE DECK MODELS
Now, throw away time consuming hand screens. Mighty-Mite will efficiently, economically screen coarse or fine materials up to 15 tons per hour. Send for literature today.
Makers of Famous Seco Vibrating Screens

SCREEN EQUIPMENT CO., INC.
BUFFALO 25, NEW YORK

▲ For more details circle NED-304 J5 on enclosed inquiry slip ▲

Wherever SUDDEN DARKNESS can be costly

INSTALL DEPENDABLE EXIDE® LIGHTGUARDS®

When vital areas are plunged into sudden darkness due to power failures, these compact, plug-in emergency lighting units prevent panic, stop pilferage, maintain communications, restore service.

When lights go out, Exide Lightguards go on instantly, automatically! UL-approved, they plug into any 115-volt outlet. A dependable Exide lead-acid battery gives you *positive* protection. It is quickly and easily serviced. Provides exceptionally long life. The new Model M illustrated has a two rate charger—high rate or trickle.

Exide makes batteries and Lightguards for all types of emergency lighting systems: 6-volt, 32-volt, and 115-volt.

WRITE for latest, complete information on portable Exide Lightguards and larger Exide-powered built-in emergency systems. There's a big need, a big market for both!

Exide INDUSTRIAL DIVISION
The Electric Storage Battery Company, Philadelphia 2, Pa.

▲ For more details circle NED-305 J5 on enclosed inquiry slip ▲

SOLVE "TOUGH" PARTS PROBLEMS

WITH Colonial's SILICONE RUBBER

There's practically no end to the usefulness of silicone rubber as a material for making rubber parts. It won't melt or harden at 500 deg. F., won't conduct electricity, is not affected by sun, water or weather, and even dry ice can't freeze it. These and many other desirable properties which can be obtained through Colonial's expert compounding, make silicone rubber the most likely material for solving your "tough" parts problems.

Whether you are designing new products, or improving existing ones, contact Colonial Rubber Company for details on the advantages of fabricating more efficiently and *profitably* with silicone rubber. Our service is complete . . . you can call on us for any one or all three of the following:

EXPERT COMPOUNDING
ACCURATE PRODUCTION
QUICK DELIVERY

1967

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle NED-306 J5 on enclosed inquiry slip ▲

Four Sizes:
MODEL LD-3
3-Ton Capacity
(double chain)
MODEL LD-5
5-Ton Capacity
(double chain)
• • •
MODEL L-1½
1½-Ton Capacity
(single chain)
MODEL L-2½
2½-Ton Capacity
(single chain)

New . . .
Different . . . Better

COFFING Super Power

COIL CHAIN RATCHET LEVER HOIST

For over two years the entire production of Coffing's new Super Power Hoist has gone into military service. Now it is available to bring new standards of ratchet hoist performance to civilian users. Here are just a few advantages the new hoist offers:

TOUGH for safety and dependability
Every load-holding ratchet is tested at 30,000 lb. "Drop Test" spot checks hoists under 40,000-lb impact load.

SIMPLE in design
May be completely disassembled in the field.

CONVENIENT to use
Handle length is adjustable . . . may be operated from either side of hoist. Needs only 70-lb pull to lift 10,000-lb load.
For full information write for bulletin X-L.

Coffing Hoist Division
Duff-Norton Company

Originators of the Ratchet Lever Hoist

▲ For more details circle NED-307 J5 on enclosed inquiry slip ▲

INDUSTRIAL INCINERATOR

improved feed doors simplify use

Choice of double feed doors or the new Guillotine feed door is offered in large models of Winnen incinerators. Use of loading bar is eliminated in latter type so that overall height of incinerator is lower. Guillotine door is heavy gage steel with refractory lining, and it slides up under counterbalance to open. Also added to line is a 30-bushel capacity incinerator which is available with or without secondary combustion. Made by **Winnen Incinerator Co.**, 932 Broadway, Bedford 10, O.

▲ For more details circle NED-308 J5 on enclosed inquiry slip ▲

STOCK TRUCK

shelves and wheels made to order

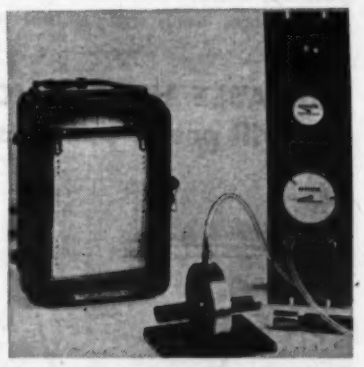
These stock trucks are available with or without steel or plywood shelves, spaced to meet individual requirements, and with a choice of steel or rubber-tired wheels. Standard sizes are 30 x 48 in., 36 x 48 in. and 30 x 60 in., with special sizes made to order. Units can be coupled for train movement with one prime mover and can be uncoupled quickly for fast distribution of stock. Made by **Ironbound Box & Lumber Co.**, 55 Hoffman Pl., Hillside, N. J.

▲ For more details circle NED-309 J5 on enclosed inquiry slip ▲

AIR GAGE-RECORDER

makes permanent strip chart record

Panel-mounted Dimensionair air gage and a Bristol strip-chart recorder are combined to provide a permanent record of measurements obtained in continuous or individual operations. The Dimensionair-Recorder chart also gives a constant visual check of thickness of sheet or strip material when used with a special gage head. Automation can be obtained by applying other Federal units which will automatically adjust the machine to make it produce material of the required thickness. Individual measurements made by any of the regular Dimensionair gaging units can also be permanently recorded. Developed by **Federal Products Corp.**, 1118NR1 Eddy St., Providence 1, R. I.



▲ For more details circle NED-310 J5 on enclosed inquiry slip ▲

★ 50th Anniversary Year ★

Bond

...for fifty years
Your Best Buy in Materials Handling Equipment

1-A Series—Stationary Caster

36-A Series—Double Ball Race Swivel Caster

Bond Self Load—Unload Drum Truck

Bond Universal Lift Jack and Platform

As Bond Foundry starts its second fifty years of service, we pledge again a constant effort to design and build the finest equipment. Whatever the materials handling equipment you need, your best buy will always be Bond.

BOND FOUNDRY & MACHINE CO.
Manheim, Pa.

1905 **Bond** 1955
For Half a Century
Prime Movers in Materials Handling

▲ For more details circle NED-311 J5 on enclosed inquiry slip ▲

SHOCK ABSORBERS

FOR ELECTRICAL ASSEMBLIES

Protect your lighting fixtures and other suspended electrical equipment from vibration damage with THOMPSON shock absorbers. Featuring angular as well as vertical movement for maximum shock absorption, these durable units are designed for use in a wide range of applications.

THOMPSON shock absorbers are available in light and heavy-duty models having load capacities up to 80 pounds maximum. Fabricated from light-weight aluminum alloys, these versatile units assure long trouble-free service life for lighting fixtures, meters, fans, instrument panels, motors, process controls, unit heaters and similar items.

Write today for Bulletin SA-55 for complete details.

THE THOMPSON ELECTRIC CO.
1138 Power Avenue • Cleveland 14, Ohio

▲ For more details circle NED-312 J5 on enclosed inquiry slip ▲

laminated plastic grade selection now made easy and dependable with the NEW

FORMICA® COMPARATOR

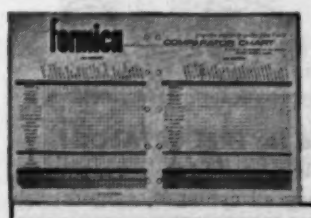
GRADE →	CHE	CHW	Z 50	L	L 42	LE	LN 5	LN 41
PROPERTY ↓	Better Machining Grade CE	Moisture Resistant Grade C	Low P. F. 60c—Dim. Stab.	Good Mach.—Mech. Applications	Excellent for Machining Mechanically Tough	Application—Good Mach.	& Chemical Resistant	Arc Resistant
WATER ABSORPTION	5	6	6	3	5	5	4	
DIMENSIONAL STABILITY (DUE TO MOISTURE)	3	5	8	1	5	3	5	
DIMENSIONAL STABILITY (DUE TO TEMPERATURE)	1	1	4	4	3	2		
ULATION RESISTANCE	2	*	4	1	1			
PERP. TO LAMINATIONS	6	*	6	1				

53 grades compared qualitatively for 20 different electrical, chemical and mechanical properties.

Here's how you can use the Comparator Chart:

1. To select the Formica® grade with the most outstanding properties to fit your requirements.
2. To determine secondary properties that might be desirable in any given grade.
3. To compare quickly the properties of any grade in the entire Formica line, without checking every data sheet.

Send for your
FREE FORMICA COMPARATOR
today



Start simplifying your job of laminated plastic selection and purchasing now.

The Formica Co., 4671 Spring Grove Ave., Cincinnati 32, Ohio

Gentlemen: Please send me at once a free copy of the new Formica Comparator (form 578).

NAME _____
COMPANY _____ TITLE _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

Formica, the most famous name in laminated plastics—engineered for industry, Beauty Bonded for the home

▲ For more details circle NED-313 J5 on enclosed inquiry slip ▲

IF YOU'RE

Handling Coil

CHECK THESE C-F LIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil—no damage to material

● C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw openings permit handling a very wide range of coil widths . . . carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles—a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for Illustrated Bulletin.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-314 J5 on enclosed inquiry slip ▲

PRE-TESTED!

to assure dependable performance

O-M CYLINDERS (air • hydraulic)

Complete testing facilities at our modern new assembly plant take the guesswork out of Cylinder performance. Before shipment every O-M Air and Hydraulic Cylinder is "power-tested" and approved, assuring dependable prolonged service under all normal operating conditions.

Standard, semi-standard, "special" air and hydraulic cylinders available in full range of sizes (1½" to 8" bores) with standard, 2 to 1 or oversize rods. Completely interchangeable parts. Immediate delivery on many sizes.

O-M CYLINDERS fit where others won't

Write for FREE CATALOG! complete set of ½-scale templates, showing all cylinders, mounts and mounting brackets.

MAIL COUPON NOW!

ORTMAN-MILLER MACHINE COMPANY
9 143rd Street, Hammond, Indiana

☐ Have representative call ☐ Send latest catalog
☐ Send ½-scale templates

Name_____ Position_____
Company_____
Address_____
City_____ Zone_____ State_____

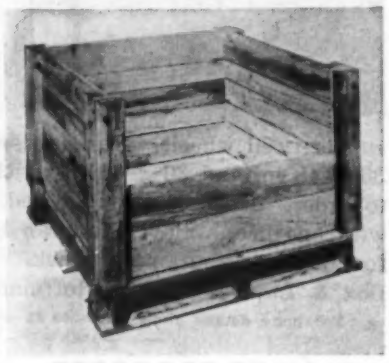
▲ For more details circle NED-315 J5 on enclosed inquiry slip ▲

THICKNESS TESTER for metal coatings, is nondestructive

Thicknesses of unlike metals deposited on metals, metals on nonconductors and nonconductors on metals are accurately measured by Dermitron portable, direct-reading thickness tester. This nondestructive electronic instrument will give thickness readings of virtually any coating on any base, including silver on brass, copper on die-castings, nickel on brass, metallizing on plastics, or metallic coatings on ceramics. Instrument is compact for use in almost any location, and readings are determined in matter of seconds. Made by **Unit Process Assemblies, Inc.**, Dept. D, 75 E. Fourth St., New York 3, N. Y.

▲ For more details circle NED-316 J5 on enclosed inquiry slip ▲

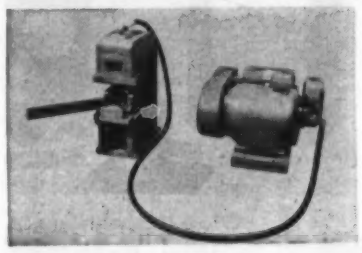
BOX PALLET for handling and storage



Bulky and odd-shaped items such as small castings and stampings can be handled and stored in the Wilco Box pallet. Made from oak lumber, it is shipped knocked down, complete with bolts and washers for assembly. Made by **Williford Mfg. Co.**, Box 6095-D, Buntyn Station, Memphis 11, Tenn.

▲ For more details circle NED-317 J5 on enclosed inquiry slip ▲

PORTABLE HYDRAULIC TOOL will press, punch, shear and form

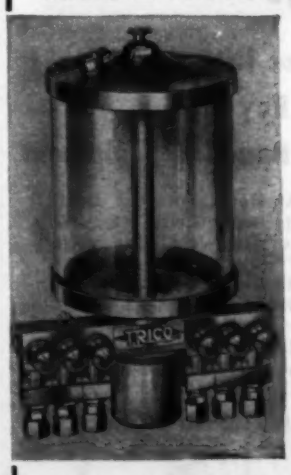


Developing up to 35-ton thrust, this Manco hydraulic utility press is compact and relatively portable. By merely changing dies, it can be used for a variety of production and maintenance operations such as punching, shearing, notching and forming of light gage metals. It has a 1⅛-in. stroke on a 1½-second work cycle. It is powered by 5-hp electric-hydraulic Hi-thrust pump. Made by **Manco Mfg. Co.**, Washington St., Bradley, Ill.

▲ For more details circle NED-318 J5 on enclosed inquiry slip ▲

Lubricate Up To . . . 20 . . . Bearings With TRICO

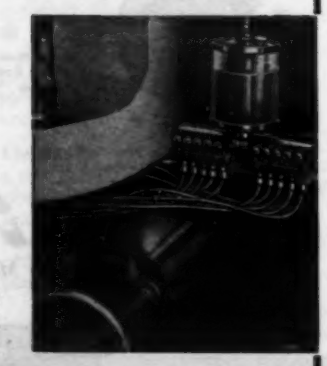
MULTIPLE FEED OILERS



- Manual Or Solenoid Control
- Pyrex Glass Or Lucite Plastic Reservoirs
- 1 Pt., 1 Qt. and 2½ Qt. Capacities.

Automatically feed a *measured* quantity of oil by gravity to multiple bearing points. No intricate mechanical parts to clog or stick. Simple needle-valve adjustments eliminate dangers of guesswork. Transparent bottle shows instantly when refilling is necessary. Easily installed. Low in cost.

SEND FOR FREE BUL. NO. 33



TRICO Multiple Oiler On Surface Grinder At Martindale Elec. Co., Cleveland, Ohio

Ten Bearings are lubricated from one *central* point safely and economically. Great savings of costly labor and lubricants are reported over former method of daily "trust-to-luck" hand oiling.

Photo-Courtesy Martindale Electric Co.

TRICO FUSE MFG. CO. MILWAUKEE, WIS

▲ For more details circle NED-319 J5 on enclosed inquiry slip ▲

PLASTIC FABRICATING PROCESS

SAVES ON MOLD COSTS

TOP QUALITY AT LOW PRICES!

Special processes developed by Sillcocks-Miller now permit fabrication of thin wall pieces such as insulators, washers, etc., with low tool cost and without sacrifice of quality or service life . . . Send specifications for details, recommendations and quotations on all your small part requirements.

45 Years Experience in Solving Problems with Plastics!

The SILLCOCKS-MILLER Company
12 WEST PARKER AVENUE • MAPLEWOOD, N. J.

▲ For more details circle NED-320 J5 on enclosed inquiry slip ▲

UNIVERSAL DRILL BUSHINGS INSURE PERFECT ALIGNMENT AND LONG LIFE OF PRODUCTION TOOLS

181-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-321 J5 on enclosed inquiry slip ▲

Now . . . A Machine Feed that BREAKS the TIME BARRIER!

Steps Up PRODUCTION to the Continuous Flow of the FOURTH DIMENSION: TIME

Every time a machine cuts air . . . every time feed fingers are adjusted or replaced . . . or remnant removal forces a shut-down — *that's production time lost forever!*

In the modern Lipe Automatic Magazine-Loading Bar Feed, we present a continuous-feed mechanism that utilizes *every minute* of the working day for production! *No* cutting air. *No* feed fingers. *No* remnant problem. *No* maximum or minimum run. *No* limit on length of feed. *No* selective stock length requirement.

There IS a definite increase in production—up to 100% on some installations — AT LEAST 30% ON EVERY ONE!

Send today for FREE BOOKLET giving full details on Lipe's AML Bar Feed. We will also supply name of your nearest dealer.

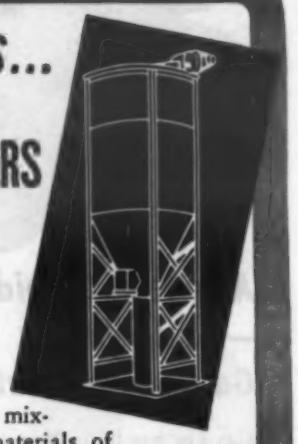
Lipe-ROLLWAY CORPORATION

▲ For more details circle NED-322 J5 on enclosed inquiry slip ▲

MONEY-SAVERS...

SPROUT-WALDRON

VERTICAL MIXERS



You'll find at Sprout-Waldron the greatest variety of vertical mixers—ranging from the world's largest to the world's smallest. They are money-saving answers to the problems of mixing dry, free-flowing materials of uniform particle size. Vertical mixers cut floor space and power requirements. Available in all suitable materials. Can be adapted to meet your special requirements.

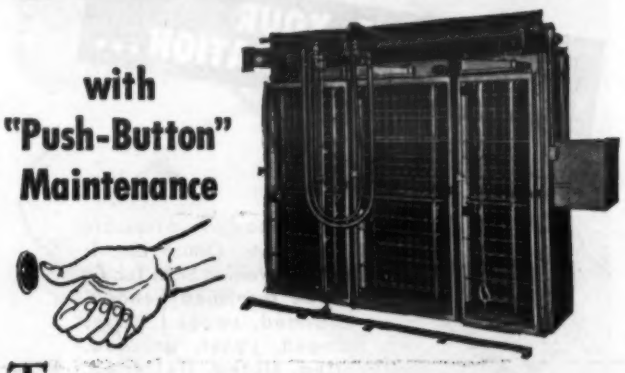
WRITE NOW for full details on Sprout-Waldron verticals as well as Sprout-Waldron horizontal and continuous mixers and blenders.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN ST. • MUNCY, PA.
IN/408 Equipment for SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

▲ For more details circle NED-323 J5 on enclosed inquiry slip ▲

Electro-CELL AIR FILTER

with "Push-Button" Maintenance



THE addition of the new Type H Washer to the famous high-efficiency Electro-Cell precipitator means that it now cleans *itself* automatically, as well as the air!

The cleaning operation is fully automatic after starting button is pushed. A set of spray nozzles moves back and forth across the face of the collector plates, washing away the accumulated dust and dirt. If manual cleaning is preferred, plates may be serviced in place or easily removed for inspection.

For complete information on the Electro-Cell with Type H Washer, call your local AAF representative or write direct for Bulletin 252-E3A.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle NED-324 J5 on enclosed inquiry slip ▲

for EFFICIENT HANDLING and ORDERLY STORAGE

You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save mechanics' waiting time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

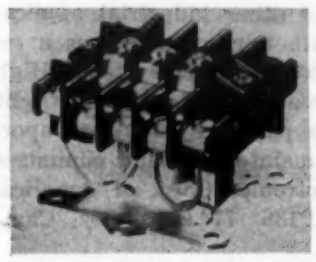
▲ For more details circle NED-325 J5 on enclosed inquiry slip ▲

PANTOGRAPH ENGRAVER has fixed ratio of 3 to 1

This low cost, 3-to-1 fixed ratio No. 623 pantograph engraving machine is adaptable for precision two and three dimensional work in metal, plastics or wood. Micrometer vertical depth control of 0.250-in. is employed. Spindle chuck accommodates ⅛-in. diameter straight shank cutters, tools, burrs and midget mills. Accessory electric etching head is also available. Cost of machine, with motor, is $99.50. Made by **Mico Instrument Co.**, 80-D Trowbridge St., Cambridge 38, Mass.

▲ For more details circle NED-326 J5 on enclosed inquiry slip ▲

MOTOR CONTROL RELAY for across-the-line starting



UL-approved for 2 hp at 115 v and 3 hp at 230 v single phase ac, and 3 hp at 115 v and 7½ hp at 230 v three phase ac, No. 9100 magnetic motor control relay is designed for across-the-line starting of motors and control of heating and refrigeration equipment. Features are small size, quiet operation, low coil power and screw terminals located for easy installation. Made by **Leach Corp.**, Leach Relay Div., Dept. NED, 5915 Avalon Blvd., Los Angeles 3, Calif.

▲ For more details circle NED-327 J5 on enclosed inquiry slip ▲

BENCH GRINDER is powered by a 1/3-hp motor

Usable in toolroom and production work, this type R bench grinder is equipped with one coarse and one fine wheel. Tool rests are adjustable to compensate for wheel wear, and wheel guards are removable for using buffing, polishing or wire wheels. A chuck can be mounted on the motor shaft for other work. It is driven by a ⅓-hp capacitor type, ball bearing motor at 3450 rpm. Motors for use on 110-v single phase ac, 220 or 440-v three-phase ac can be supplied. Shatterproof eye shields and cast iron pedestal with tool tray and water cup are also available. Made by **Roberts Motor Co.**, Dept. NE, 404 Union St., Bronson, Mich.

▲ For more details circle NED-328 J5 on enclosed inquiry slip ▲

Here's one for the load!

A crate of machinery bound for New Zealand, securely reinforced with USS Gerrard Round Steel Strapping. Diagonal tie prevents torsional sway and weaving of crate. Get the FULL story by sending for USS Gerrard's new 36-page Blue Book of Packaging, today!

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 S. Richmond Street, Chicago 32, Ill.

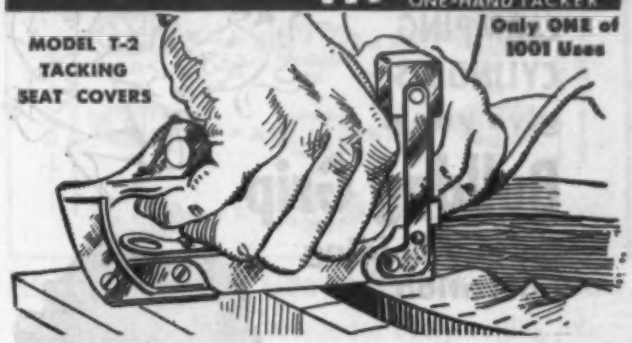
USS GERRARD
ROUND STEEL STRAPPING FLAT STEEL
UNITED STATES STEEL

▲ For more details circle NED-329 J5 on enclosed inquiry slip ▲

YOU CAN DO IT AT LESS COST with HANSEN ONE-HAND TACKER

MODEL T-2 TACKING SEAT COVERS

Only ONE of 1001 Uses



FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip. Leaves one hand free.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses — screens, insulation, TV wires, etc.

AT LESS COST! (MODEL T-3-4 HANSEN TACKER)

Hansen saves *time, steps,* and *materials* — operates faster — saves back-tracking — ready for instant, continual use.

36 DIFFERENT MODELS
80 STAPLE SIZES

A.L. HANSEN MFG. CO.

Request Booklet ...today

5164 RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

▲ For more details circle NED-330 J5 on enclosed inquiry slip ▲

Skids? Pallets?

HANDLE 'EM BOTH

with RAYMOND Lightweight

HAND PALLET TRUCK with SKID ADAPTER

Why buy one hand truck for skids . . . another for pallets . . . when this RAYMOND Lift Truck will handle them both!

This RAYMOND Pallet Truck is now available with a hinged superstructure for handling skid loads. The superstructure raises out of the way when your load is on pallets . . . lowers into position when you're handling skids. It cuts hand truck costs in half for dual skid and pallet handling . . . ideal when converting from skid to pallet operation.

The RAYMOND Hydraulic Truck is lightweight . . . thanks to its aluminum alloy construction . . . yet plenty rugged to provide years of use. It's highly maneuverable, easy to pull, has foot pedals for lifting and lowering loads. Capacity: 2,000 lbs.

The RAYMOND CORPORATION
4157 Madison St., Greene, N.Y.

☐ Please send details on Hand Pallet Truck with Skid Adapter.
☐ Please send me latest RAYMOND Hydraulic Equipment Catalog.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-331 J5 on enclosed inquiry slip ▲

Schrader®

CLAMPING CYLINDERS give you a

Bulldog Grip

on any holding operation

Inefficient work holding can be costly in lost motion and in rejects. Schrader Clamping Cylinders give you just the grip you need to position and hold any job.

In addition, you eliminate time-consuming and dangerous hand clamping or holding.

For more information on Schrader Clamping Cylinders that will help boost your production and reduce rejects, write for the Schrader Catalog. You'll also learn about the full line of Schrader Air Control Products.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. R-9, Brooklyn 38, N. Y.

For more details circle NED-332 J5 on enclosed inquiry slip

Now! The Right Glove For Your Job

Let PIONEER's "Hand Protection Clinic" Help!

Send (Attn: Hand Protection Clinic) a job description, including the answers to these questions, on your company stationery and we'll solve your glove problem for you. Assures you of maximum worker protection and comfort at the minimum cost.

1. Are gloves to protect the worker or the product?
2. How far up arm is protection required?
3. How much dexterity is required?
4. How much abrasion resistance is required?
5. What chemicals (i.e., solvents, etc.) are used?
6. Are extreme temperatures encountered?

Complete Glove Catalog available on request!

16 PIONEER all-neoprene Stanzoil glove styles withstand oils, greases, solvents, acids and caustics. Light, medium and heavy weights all with the safe non-slip grip.

the PIONEER Rubber Company
234 Tiffin Road, Willard, Ohio, U.S.A.

Pioneers in Industrial Hand Protection For Over 35 Years

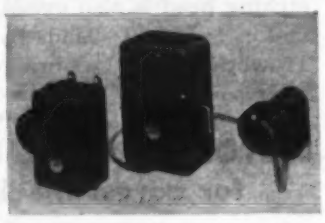
For more details circle NED-333 J5 on enclosed inquiry slip

MIDGET TOGGLE CLAMPS for small, light-pressure uses

Measuring only 2¼ in. long and ⅞-in. high, this Wespo midget toggle clamp has a recommended holding pressure of 25 lb and a maximum pressure of 40 lb. It is especially suited for jobs requiring small clamps for light-pressure holding. Made by **West Point Mfg. Co.**, 26943 W. Seven Mile Rd., Detroit 19, Mich.

For more details circle NED-334 J5 on enclosed inquiry slip

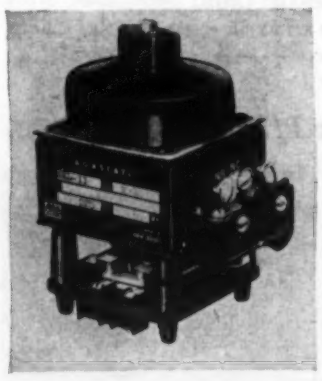
PHOTOELECTRIC CONTROL operates over distance up to 100 ft



Affording speeds up to 600 operations per minute, Set P4L photoelectric control system operates over distances up to 100 ft. It is usable for wide range of remote control, safety, alarm and other industrial applications and can be used with mirrors. Set has a remote phototube with an extended lens system. High sensitivity assures positive action under varying light conditions and interference caused by dust or vapor. Plug-in chassis simplifies maintenance and minimizes downtime. Made by **Electronics Corp. of America**, Photoswitch Div., Dept. P136, 77 Broadway, Cambridge 42, Mass.

For more details circle NED-335 J5 on enclosed inquiry slip

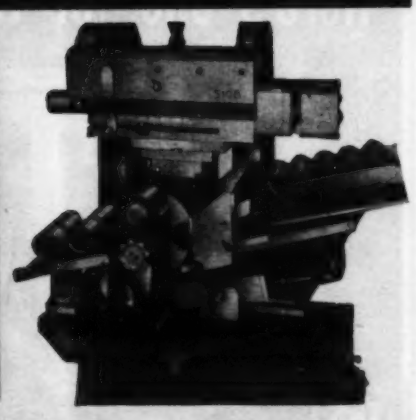
TIME DELAY RELAY features an electrical interlock



An electrical interlock in a circuit which allows pushbutton control is afforded by instant action auxiliary Micro Switch used in the NEL Agastat time delay relay. Time delay is pneumatically-controlled and is adjustable from 0.1 seconds to 10 minutes or more. Switch contacts are kept open by lever connected to relay core. When relay is energized, contacts close instantly allowing interlock. Simultaneously, time delay period starts. At end of delay, main switch trips transferring contacts. Relay is offered for all alternating and direct current voltages, in single-pole, double-throw, double-break and double-pole, double-throw, single-break models. It is rated 15 amp at 115 v ac. Made by **Elastic Stop Nut Corp. of America**, A'G'A Div., 1020 Newark Ave., Elizabeth 3, N. J.

For more details circle NED-336 J5 on enclosed inquiry slip

CUT COSTS . . . SPEED PRODUCTION with GTS FULLY AUTOMATIC MARKING



The tube marker shown here was designed by GTS engineers for major automotive manufacturers.

It dramatically cuts marking costs, speeds production, and insures accurate, uniform marking—handling as many as 2500 to 3000 mild steel thin-walled tubes per hour.

This is only one item in a proud list of designing triumphs. Write today and state when you want a GTS Sales Engineer to call—without obligation—to discuss with you how you save time and money, and insure uniformity, by using the best in modern marking methods.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-337 J5 on enclosed inquiry slip

A better Carbide Saw —made better by the Gay-Lee patented tip

Gay-Lee has built these saws as thin as .020" and still no tip trouble or run-out was encountered in high production use. These are real production tools for all slotting operations . . are being used by leading manufacturers of business machines on extreme close tolerance work and by manufacturers of other products.

If you have slotting problems Gay-Lee can help you.

"THINSAW" with Carbide Tips

Built only by . . . GAY-LEE COMPANY CLAWSON • MICHIGAN

For more details circle NED-338 J5 on enclosed inquiry slip

For more details circle NED-339 J5 on enclosed inquiry slip

TIME YOUR TESTS IN SPLIT-SECONDS!

GRA LAB

ALL PURPOSE LABORATORY TIMERS

Models at $21.95 to $26.95

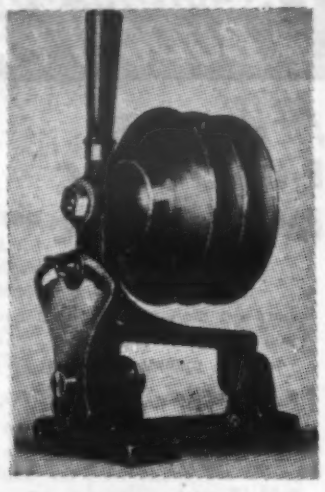
You can set the large 8" dial for any desired time period within an unusually wide range of 3600 possible settings, (ie., 1 sec. to 60 min., 1 min. to 60 hrs., etc). At end of preset interval, alarm sounds and external load is automatically switched on or off. Gra-Lab Micro Timers, *Electric Stop Clocks*, are available in 1/10 sec. or 1/1000 min. graduations for split-second measurements of elapsed time in laboratory or production operations. Price $37.50

WRITE FOR COMPLETE CATALOG!

DIMCO-GRAY COMPANY 208 E. Sixth St. Dayton 2, Ohio

For more details circle NED-340 J5 on enclosed inquiry slip

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. Adv.

▲ For more details circle NED-341 J5 on enclosed inquiry slip ▲

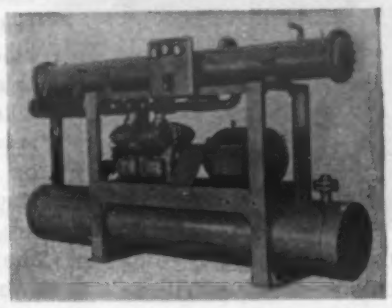
Order USG® BRUSHES because...

- Years of practical experience in all types of applications assure you of the proper USG brush for your equipment.
- Controlled manufacturing uniformity gives you the same brush every time you order.
- There is a USG representative near your plant. See him or write for your copy of the USG Brush Catalog B49 today.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION
SAGINAW, MICHIGAN
198-A

▲ For more details circle NED-342 J5 on enclosed inquiry slip ▲

WATER-COOLING MACHINES
for air conditioning, refrigeration systems, range in size from 5-125 hp

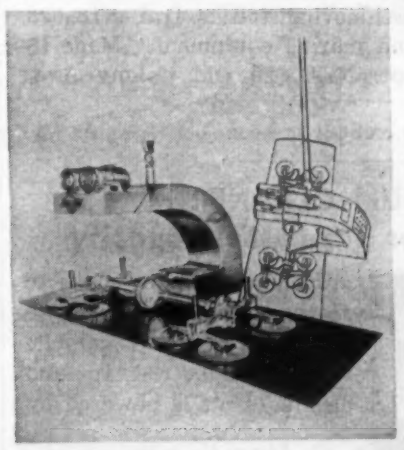


Line of packaged water cooling machines for air conditioning and process refrigeration installations consists of 12 different machines ranging in size from 2 to 125 hp. Unusual compactness is featured by 25 to 75-hp models which handle varied applications for chilled water under 100-ton capacity All components—compressor, condenser and cooler—are supplied as a single unit; piped, filled with oil and charged with refrigerant.

"Heart" of system is heavy-duty reciprocating compressor with automatic capacity control which "unloads" cylinders for matching compressor operation to cooling requirements. Small chillers from 5 to 20 hp have hermetically sealed compressors with no shaft seal. These units are also completely charged with refrigerant. Made by **Carrier Corp.,** 300-A S. Geddes St., Syracuse 1, N. Y.

▲ For more details circle NED-344 J5 on enclosed inquiry slip ▲

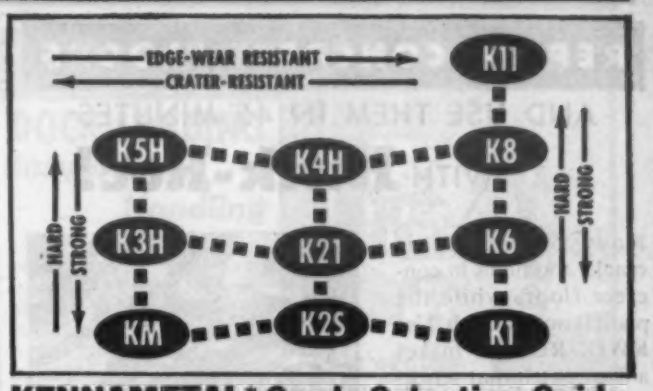
ROLL-OVER SHEET LIFTER
vacuum cups lift 2000-lb loads, and unit is handled by a crane



Having a safety factor of 7 to 1, this eight-cup vacuum roll-over sheet lifter will easily and safely handle any non-porous material up to 5 ft wide by 20 ft long weighing up to 2000 lb. Sheets can be moved anywhere in plant with complete safety. Unit has U-hook for attaching to any overhead crane. Vacuum for cups is provided by two ½-hp electric motor driven pumps. Since only the eight rubber cups contact the surface of the material being handled, sheets cannot be scratched or damaged.

Vacuum cups separate sheets easily. Roll-over is accomplished by 1-hp electric motor driven mechanism under pushbutton control. Rotation can be stopped at any position from horizontal to 180 degrees. When sheet or plate is inverted, it can be carried safely without dependance on vacuum. Larger machines are available for up to 4000-lb loads. Made by **F. J. Littell Machine Co.,** 4169 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-345 J5 on enclosed inquiry slip ▲



KENNAMETAL* Grade Selection Guide
the right grade of carbide for every cutting job

The Kennametal Grade Selection Guide is a quick, easy way to select the exact grade of carbide for your every machining job.

Compare any of the 10 grades shown on the Guide. You'll see that Kennametal offers a wealth of possibilities for use of carbides having unusual strength, high hardness, and top wear-resistant characteristics.

For example, the guide shows K3H in the column which includes grades with highest resistance to cratering such as needed for high velocity operations or machining high tensile steels. K3H is a general purpose grade, hence appears in the center row with a harder grade (K5H) and a stronger grade (KM) available in the high crater-resistant category.

This grade selection chart is available in a handy pocket size. Ask a Kennametal Tool Engineer, or write to KENNAMETAL, INC., Latrobe, Pa., for a copy and inquire about a complete analysis of your tooling problem.

*Registered Trademark

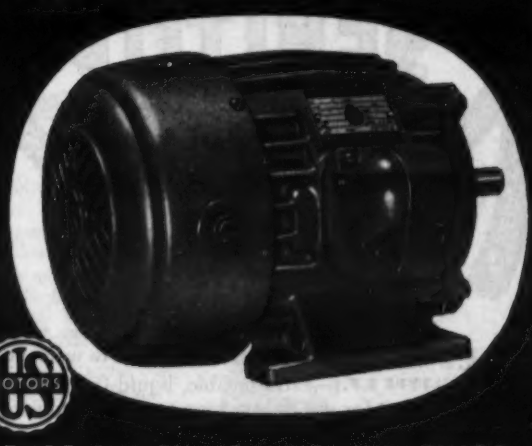
Give your machines the tools they deserve . . . the BEST!

INDUSTRY AND KENNAMETAL ...Partners in Progress

7872

▲ For more details circle NED-346 J5 on enclosed inquiry slip ▲

THE ALL NEW
CAST-IRON
TOTALLY-ENCLOSED
MOTOR



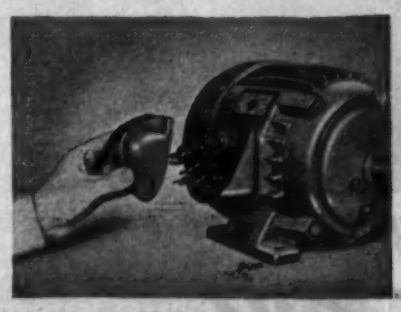
TYPE J WITH NEW NEMA RATINGS

U.S. TOTALLY-ENCLOSED

The frame, end bells, fan guard cover and conduit box of the new Type J (Totally-Enclosed) and Type E (Explosion-Proof) motors are all made of cast iron to offer complete protection against corrosive conditions. The shock-resistant, cast-iron frame is heavily ribbed for added strength and rapid heat dissipation. The iron grille is cast integrally with the fan guard. It permits maximum flow of air to the ventilating fan. prevents entrance of debris, and avoids breakage. These plus many other exclusive U. S. features such as asbestos-protected windings, Lubriflush transverse lubrication, make totally-enclosed motors the most advanced concept of complete protection for dangerous duties.

with
SPLIT DOME CAST-IRON CONDUIT BOX

The conduit box is a heavy duty, cast-iron, diagonally split type, neatly-contoured and easiest of access. The box can be rotated to any of four positions.



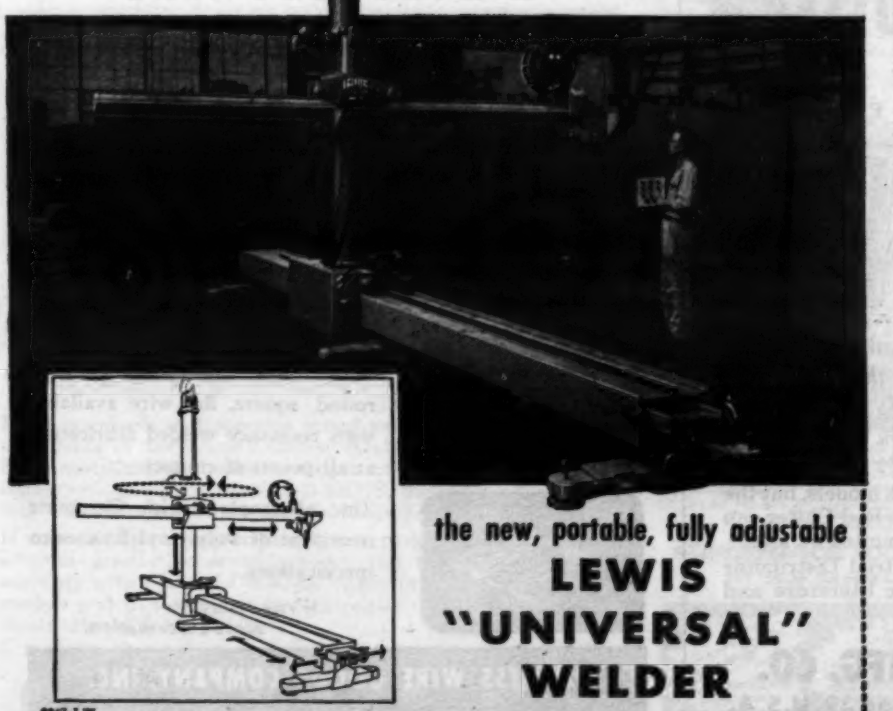
U. S. MOTORS

Mail coupon for comprehensive fully illustrated booklet

U. S. ELECTRICAL MOTORS INC. NED-9
Box 2058, Los Angeles 54, Calif. or Milford, Conn.
Please send Bulletin No. 1879
Name
Company
Address
City Zone State

▲ For more details circle NED-347 J5 on enclosed inquiry slip ▲

THE WORLD'S MOST VERSATILE WELDING FIXTURE



Exclusive features of this LEWIS automatic welding fixture include full portability . . . simultaneous 3-directional travel . . . 360° boom rotation . . . adjustable base . . . use of any standard head for welding, flame cutting or hardening.

Designed to handle a wide variety of jobs, this fixture reduces set-up time for large weldments 60% or more. It can be moved easily by crane to any plant location. Full boom rotation permits multiple set-ups with only one machine.

The LEWIS "Universal" Welder has 18 feet of longitudinal travel . . . can be supplied with booms and columns of different lengths. Transverse travel of boom and clearance under it range from 8 to 12 feet, depending on size of machine.

the new, portable, fully adjustable
LEWIS "UNIVERSAL" WELDER

LEWIS
THE LEWIS WELDING & ENGINEERING CORP.
14 Interstate Street • Beaverd, Ohio

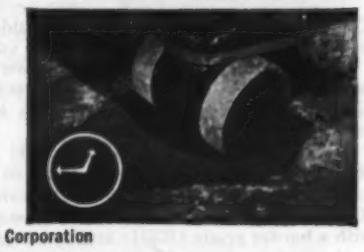
6317-LW

▲ For more details circle NED-343 J5 on enclosed inquiry slip ▲

REPAIR CONCRETE FLOORS

AND USE THEM IN 45 MINUTES WITH Kwik-Roc!

Now you can repair cracks and holes in concrete floors while the plant is out to lunch. Use KWIK-ROC. It makes a floor patch that sets to rocklike hardness within 45 minutes of application. No need to hold up or detour plant traffic. When lunch is over it's all ready to use and abuse. Write for prices and detailed information.



A Subsidiary of Sun Chemical Corporation

A. C. Horn Co., Inc.
Dept. HS-968, Long Island City 1, N. Y.

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For more details circle NED-351 J5 on enclosed inquiry slip

FREE sample of SEALTITE

FLEXIBLE, LIQUID-TIGHT ELECTRICAL WIRING CONDUIT

Your choice of two types:

TYPE U.A.—first liquid-tight flexible wiring conduit to get Underwriters' Approval for use in wet spots.

TYPE E.F.†—extra-flexible, liquid-tight electrical wiring conduit for use on machine tools and industrial equipment. Meets J.I.C. requirements. Available in machine tool light gray at no extra cost.

See for yourself why Sealtite* installations are more permanent, easier and cheaper to make. Send for your FREE sample today. (Specify Type U.A. or Type E.F.) Write: The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn.
*Trade Mark (†Pat. Applied For.) 54188

SEALTITE flexible, liquid-tight electrical conduit—an ANACONDA® product

For more details circle NED-352 J5 on enclosed inquiry slip

you pick up a roll Zip professional charts!

You can be a *professional* "draftsman" in minutes (so can anyone in your office.)

Everything you need to make an accurate, professionally drawn graph is pre-printed on self-sticking acetate tape! Lines, dotted lines, bars, people, coins, autos,—*everything!* Merely plot your dots—roll on whatever you want. Presto! A professional graph, without professional help, time or costs.

Write today for all the details on this revolutionary graph-making method! Chart-Pak materials also available for organization and flow charts, and office layout.

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Please send me Chart-Pak Method data on:
☐ Graphic Charts ☐ Office Layout
☐ Organization Charts ☐ Plant Layout
Name_____
Company_____
Address_____
City_____ State_____

For more details circle NED-353 J5 on enclosed inquiry slip

ADJUSTABLE MASONRY DRILL

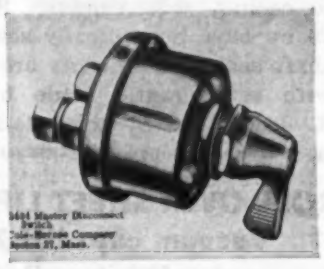
cuts 2¼ to 5¼-in. holes in masonry

Neat, round holes are readily cut in cement block or masonry with this adjustable drill which is used in any standard ½-in. electric or air drill. Carbide-tipped cutter blades are adjustable to any diameter from 2¼ to 5¼ in. The carbide-tipped pilot drill is used to drill a hole in the center of the required opening to receive the pilot for the larger drilling tool. Price is $32.50. Made by **Randles & Reynolds Machine Co.**, Dept. M, Box 264, Alpena, Mich.

For more details circle NED-354 J5 on enclosed inquiry slip

MASTER DISCONNECT SWITCH

cuts off all electrical power



Steel or brass is utilized in construction of this master disconnect switch. It has heavy duty copper contacts for 6 and 12-v systems and silver inlaid contacts for 24-v systems. Design prevents tampering by cutting off all electrical power at the source. Application can be to aircraft, earthmoving, trucks, trailer trucks, materials handling and marine equipment. Made by **Cole-Hersee Co.**, Dept. NED, 20 Old Colony Ave., Boston 27, Mass.

For more details circle NED-355 J5 on enclosed inquiry slip

WET-DRY VACUUM CLEANER

has 12-gal or 1½-bushel capacity

Added to company's line of floor maintenance equipmentment is this Vacmobile wet-dry industrial vacuum cleaner. Unit is powered by 1¼-hp motor with safety by-pass feature for picking up water and detergents from floors. Recovery capacity is 12 gallons of liquid or 1½ bushels of dirt. Large nonmarking rubber wheels and handle bar enable it to be pulled over carpet edges and sills, or up ramps and stairs without actual lifting. Available with machine is the ball bearing squeegee-type Master Tool equipped with slide-on adapters to meet various floor cleaning needs. Made by **West Disinfecting Co.**, Dept. DE, 42-16 West St., Long Island City 1, N. Y.

For more details circle NED-356 J5 on enclosed inquiry slip

Just a single stroke!...

CUTS ROUND RODS ⅛" to ⅞" on a

MARVEL ROD CUTTER

Available in three models:

No. 5	⅛	3/16	¼	5/16	⅜
No. 6	⅜	7/16	½	9/16	⅝
No. 7	⅜	½	⅝	¾	⅞

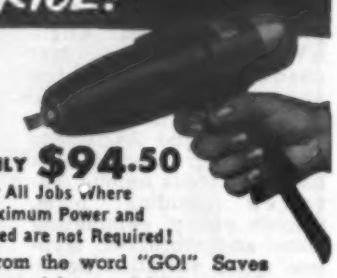
These are bench models, but the No. 7 MARVEL Rod Cutter can be furnished mounted on legs. See your Industrial Distributor or write us for literature and prices.

ARMSTRONG-BLUM MFG. CO.
5700 W. Bloomingdale Ave. • Chicago 39, U.S.A.
Manufacturers of the outstanding MARVEL Metal Saws.

For more details circle NED-357 J5 on enclosed inquiry slip

PREMIUM QUALITY at BUDGET PRICE!

NEW 4U-SD ELECTRIC IMPACTOOL



ONLY $94.50
For All Jobs Where Maximum Power and Speed are not Required!

Here's a money-saver right from the word "GO!" Saves you money on initial cost . . . and keeps right on saving you time, money and effort on a host of plant operations.

For the first time, you get I-R's world-famous proven construction at a *budget price*. The 4U-SD has all the design advantages of the new 5U Electric Impactool, pound for pound . . . the most powerful ½" tool in its field. For jobs requiring maximum power and speed, be sure to use the 5U. But on all your other jobs, the 4U-SD will save you more than 25% on purchase price.

It's Multi-Purpose, Too!

Fast—easy application of standard attachments changes the 4U-SD from a nut-runner into:

- drill
- tapper
- screw driver
- reamer
- wood borer
- wire brush
- hole sawer
- stud driver
- masonry drill

Call your IR distributor for a demonstration in your shop

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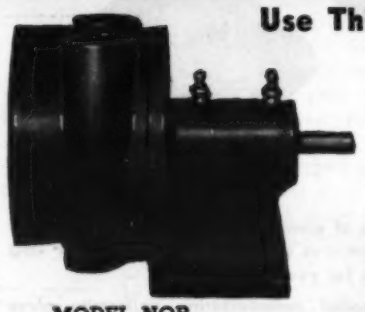
11 Broadway, New York 4, N.Y.
Originators of Impactools AIR & ELECTRIC
18-216

For more details circle NED-358 J5 on enclosed inquiry slip

COOL TOOLS WORK BETTER, LONGER

COOL TOOLS BEST WITH "FULFLO" TRADE MARK REG. U.S. PAT. OFF.

CENTRIFUGAL COOLANT PUMPS



Use This Easy Way To Keep Tools Cool

1. Be sure you're using the right type of coolant.
2. Bring it to the right spot, pumped and circulated by the FULFLO PUMP designed for your purpose.

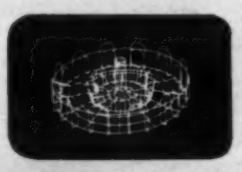
MODEL NOR
Right rotation
MODEL NOL
Left rotation
Direct connection
1600 to 2600 rpm;
8 gallons per minute at 1725 rpm.

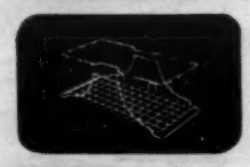
Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

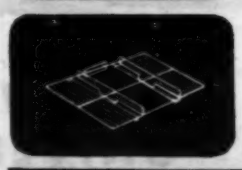
THE FULFLO SPECIALTIES CO. Inc.
PUMP AND VALVE MANUFACTURERS
BLANCHESTER, OHIO

For more details circle NED-359 J5 on enclosed inquiry slip

Produce It Better, Faster, at Less Cost with *Peerless* FORMED WIRE PRODUCTS







Wire racks, baskets, trays, dish washer racks, fan guards and hundreds of other formed wire products are Peerless' specialty.

Heavy gauges of low carbon steel or stainless to ½" diameter in round, square, flat wire available with resistance welded fabrication at all points of contact.

Zinc electroplate with Chromate treatment or Poly-vinyl finishes to specifications.

Write today for more information.

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET . LAFAYETTE, INDIANA

For more details circle NED-360 J5 on enclosed inquiry slip

HALLOWELL

POSTURE STOOLS AND CHAIRS

LOOK AT THESE FEATURES

- Posture back rests, interchangeable and adjustable
- Spring steel back bars for proper posture
- Seats designed for comfort, plain or Presdwood covered
- Angle braces and angle legs for strength and rigidity
- Welded construction

HALLOWELL Posture Stools and Chairs are stocked and sold by leading shop equipment dealers. See your local man or write us for literature. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-361 J5 on enclosed inquiry slip

Check with FAIRFIELD for FINE GEARS

MASS production of fine gears is an accomplishment that requires the ultimate in manufacturing facilities and experience. And it's all here at Fairfield—metallurgical department, batteries of the most modern machines, complete heat treating equipment, all operated by skilled craftsmen producing truly fine gears. Here is more than 30 years of experience translated into the gear-making "know-how" that is essential to manufacturing high quality, dependable gears.

Our facilities are complete for producing gears for a wide variety of applications. Why not consult Fairfield on your next gear problem? Your inquiry will receive prompt attention.

Fine Gears Made to Order:
SPIRAL BEVEL
STRAIGHT BEVEL
HYPOID
HERRINGBONE
HELICAL
DIFFERENTIALS
SPUR
WORMS AND WORM GEARS

FAIRFIELD MANUFACTURING CO.
2335 S. Concord Road Lafayette, Indiana

For more details circle NED-362 J5 on enclosed inquiry slip

ANOTHER FLASH-O-LENS AT WORK AIDING METALLURGICAL INSPECTION AT

U.S. Steel

Rigid standards of inspection guard every production step in the plants of the world's largest steel maker. Here a U. S. Steel metallurgist checks a sample of tin plate for surface imperfections with a FLASH-O-LENS, the unique inspection tool that illuminates the area it magnifies.

If minute visual inspection plays a part in quality control of your product, chances are you can save time, increase accuracy with FLASH-O-LENS. Made in battery and plug-in models and in a wide range of precision lenses to meet *your* needs. Prices from $10.95.

For fully descriptive literature write . . .

E. W. PIKE & COMPANY, Inc.
492 NORTH AVENUE ELIZABETH 3, NEW JERSEY

For more details circle NED-363 J5 on enclosed inquiry slip

MAGNETIC SHEET FLOATER expedites feeding and handling

This magnetic sheet floater separates stacked steel sheets automatically for fast, safe handling and feeding. Top sheets, even when coated with oil, are separated from those below so that doubles cannot be fed into presses. This separation method also prevents scratching of painted or finished surfaces. Floaters are enclosed in stainless steel to protect the Alnico magnet from damage. Sizes range from 7 to 25 in. Made by **Dings Magnetic Separator Co.,** 4758 W. Electric Ave., Milwaukee 46, Wis.

For more details circle NED-364 J5 on enclosed inquiry slip

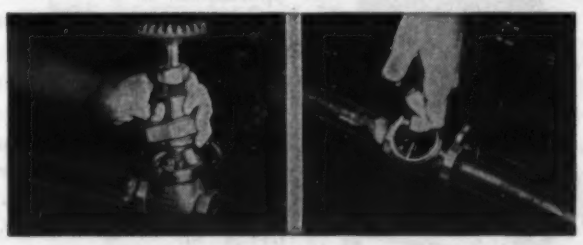
CAM-ACTUATED VISE for machine tool applications

Cam actuation of this line of Modern cam vises assures fast operation and firm grip. They are designed for use on milling machines, drill presses and similar machines. Cast alloy bodies are strong and shock resistant. Hardened and ground jaws and hardened steel joint and adjusting screw are used. Four models have either 5/32 or 3/8-in. cam throw and 4-in. or 5-in. jaw widths. Made by **Nelco Tool Co.,** Modern Tools Div., Dept. 4, Berlin, Conn.

For more details circle NED-365 J5 on enclosed inquiry slip

GATE VALVE ring seat renewable in 7-10 minutes

Seat ring in this gate valve can be replaced in 7 to 10 minutes under all conditions with just a screwdriver and without removing valve body from the



line. Supplied with rising and nonrising stem in 1/2, 3/4, 1, 1 1/4, 1 1/2 and 2-in. sizes, valve is suitable for severe service conditions on 200-psi steam or 400-psi water, oil or gas lines requiring full flow and frequent operation. Combination of Monel seat ring and nickel alloy wedge makes valve corrosion resistant. Valve has two-piece Union bonnet construction with radial body-bonnet joint reinforced by heavy octagonal union nut. Made by **Fairbanks Co.,** Dept. 43, 395 Lafayette St., New York 3, N. Y.

For more details circle NED-366 J5 on enclosed inquiry slip

Representatives and Distributors in principal industrial areas.

For more details circle NED-367 J5 on enclosed inquiry slip

SPEED DOCK LOADING
Insure SAFE Handling

Now . . . at low cost, equip your loading dock to meet every carrier level. Sturdy steel lip of Globe's new Trans-O-Matic Ramp moves up or down . . . rides automatically with truck bed during loading or unloading.

SMOOTHEST TRAFFIC FLOW

Cross-over for fork trucks and pallet loads is smooth and safe . . . dangerous gangplanks and nailed-down plates eliminated . . . accidents and breakage prevented. Box type reinforcement assures rigid platform.

EASY, SAFE OPERATION

Dependable hydraulic power does the work . . . control is by push-button within easy reach of workers. Automatic Safety Lock prevents sudden drop if truck pulls out. Rugged power unit is fully protected against dirt and weather. No excavation or piping needed; easily, quickly installed at any loading dock.

GLOBE® TRANS-O-MATIC RAMPS
PLANTS: DES MOINES-PHILADELPHIA-LONG BEACH, CAL.

Want More Information?
Write for complete data today.
GLOBE HOIST COMPANY
East Mermaid Lane at Queen St.
Philadelphia 18, Pennsylvania

For more details circle NED-368 J5 on enclosed inquiry slip

PAYS FOR ITSELF QUICKLY IN LABOR SAVING

SABIN *One-Man* BARREL TRUCK

LOOK AROUND! How many of your employees are used to handle heavily loaded barrels and drums? You can reduce the number to ONE and save plenty by using a Sabin Barrel Truck.

OPERATION IS EASY—you run truck up to container, hook on at top and pull back on handle to pick up load. *Third Wheel Feature* assures better balance and added safety.

WRITE FOR BULLETIN NO. 48-A

THE SABIN MACHINE CO.
6536 Carnegie Ave.,
Cleveland 3, Ohio

For more details circle NED-369 J5 on enclosed inquiry slip

NoDrip ...STOPS CONDENSATION DRIP

NoDRIP PREVENTS RUST —ANYONE CAN APPLY

NoDrip plastic coating is easily applied to tanks, containers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless 100% moisture-proof covering that is effective as soon as dry. Acid, alkali and brine resistant.

FREE... Interesting 32-page Handbook shows what NoDrip is and what it does.
SEND COUPON TODAY

SEND NoDRIP HANDBOOK
NAME
ADDRESS
CITY STATE

J. W. MORTELL CO. • 526 I BURCH ST. • KANKAKEE, ILL.
TECHNICAL COATINGS SINCE 1895

For more details circle NED-370 J5 on enclosed inquiry slip

FLOORMOBILE **Suction Cleans**

large floors fast!

Up to 20,000 square feet an hour

Gas or electrically powered

dust lint dirt string cloth paper chips soot fly ash

Low Cost DUST CONTROL is now possible for large plants and warehouses because powerful suction lifts *all the dust* from floor surfaces and eliminates it from the atmosphere. Brooms and mechanical sweepers remove only rubbish. FLOORMOBILE collects rubbish and trash as well as dust. FLOORMOBILE is setting new standards of low maintenance costs for hundreds of well-known companies.

New Bulletin 551 gives full details, including case histories. Send for your copy today.

Handling Devices Company, Inc.

45 Pearl Street, Brookline 46, Massachusetts

▲ For more details circle NED-371 J5 on enclosed inquiry slip ▲

NOW for the first time!

***prepare masters for spirit and other fluid-type duplicators by* XEROGRAPHY**

Xerography revolutionizes the whole field of spirit and other fluid-type duplicating with its speed and economy! Now, masters can be made in minutes. Before, it often took hours.

It's easy for an office girl to prepare these types of masters —*with photographic accuracy.* Multiple copies of a letter (including letter-head and signature), engineering drawing, report, parts list, magazine article, newspaper clipping, or any other type of document can now be run off quickly and economically on a spirit or other fluid-type duplicator.

It is not necessary to *retype* or *redraw* an original document. With the versatile new XeroX® Flo-Set* Unit and XeroX copying equipment, anything written, printed, typed or drawn can be copied onto a master *exactly* as it appears in the original. Documents up to 17"x 22" can be reduced to 8½"x 11".

Xerography is a *clean,* fast, dry, electrostatic copying process. Eliminates drawing, tracing or typing onto masters . . . no proofreading or correcting.

Versatile xerography can also be used for preparing masters, for offset duplicators and translucent masters for diazo type machines. In addition, up to 8 copies of a document can be made from *one xerographic exposure,* including an offset paper master or translucent master.

Let us show you how versatile xerography can save time and cut your duplicating costs.

WRITE for details of this new dimension in speeding paperwork.

*A TRADEMARK OF THE HALOID COMPANY

THE HALOID COMPANY

55-60X HALOID STREET, ROCHESTER 3, NEW YORK

BRANCH OFFICES IN PRINCIPAL U.S. CITIES AND TORONTO

XEROGRAPHY

THE FASTEST, CHEAPEST, MOST VERSATILE WAY TO MAKE MASTERS FOR DUPLICATING.

XEROX

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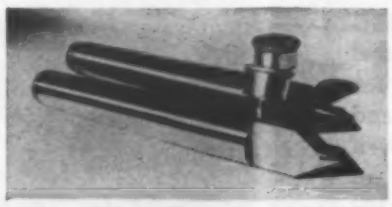
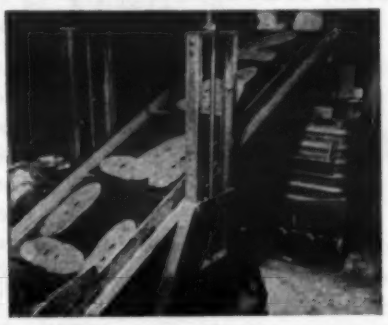
LATHE CENTER provides positive oil lubrication



Made in sizes for all lathes and grinding machines, this Oil Jet center assures precision machining by providing positive internal lubrication through a minute hole and an oil groove. Shank is concentric with point within 0.0001-in. and is precision ground on dead centers. Because lubricant is forced to outside, a clean point is assured. Made by **Tool Service Co.,** Box 10265-U, Tampa 9, Fla.

▲ For more details circle NED-373 J5 on enclosed inquiry slip ▲

CLEATED CONVEYOR BELT carries loads up steep inclines



Materials can be carried up a grade of 30 per cent or more without slipping by this cleated conveyor belt, available in a range of plies, cover thicknesses, widths and rubber compounds. Reinforced cleats are made of rubber in ⅜, ½, 1 and 1½-in. heights. Typical uses are for conveying stampings, small machined parts and small packages. Made by **Goodyear Tire & Rubber Co.,** 1144 E. Market St., Akron 16, O.

▲ For more details circle NED-374 J5 on enclosed inquiry slip ▲

PORTABLE COOLING FAN delivers up to 23,400 cfm of air

Effective on - the - spot cooling for a variety of operations in steel mills, foundries, kilns and other heat - creating industries is provided by this Power Line Air Blaster. Furnished in two models for use as blower or exhaust fan, this mobile unit delivers up to 23,400 cfm of air. Propeller diameters range from 18 to 36 in., and they are protected at both ends by rigid, reinforced wire mesh guards. Illustrated type PLDUP has a 42-in. stand, can be used in any position and is easily adjusted to control the direction of air flow. Rubber-tired wheels on front legs and crane hook provide portability Made by **Chelsea Fan & Blower Co.,** Dept. NED, 639 South Ave., Plainfield, N. J.

▲ For more details circle NED-375 J5 on enclosed inquiry slip ▲

KLIXON *Thermo Snap®* **CONTROLS**

Give Dependable, Accurate Performance in HENRICI Automatic Washing Machine Controls

The Henrici Washing Formula Control Model HT-2, illustrated, manufactured by Fritz Henrici, Incorporated, Milton, Mass., follows a formula program accurately, providing automatic control of washing machinery.

To help keep these units operating dependably, Henrici uses Klixon Controls.

Mr. Fritz Henrici, President, states —

"We have been using Klixon Controls in the Henrici Automatic Formula Controls for over 10 years. We have absolute confidence in Klixon Controls by observing their reliable performance in thousands of applications."

What's your control problem . . . low or high temperature limitation, fuel delay, tube and rectifier cooling, fan or burner operation . . . Klixon Thermo-Snap Controls are successfully meeting the requirements of a variety of such applications in military and civilian equipment, daily.

Klixon Thermo-Snap Controls are available in hermetically sealed and open construction types with fixed temperature settings to meet your needs.

Klixon Engineers will gladly help you work out application details.

METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
1909 FOREST STREET, ATTLEBORO, MASS.

KLIXON

▲ For more details circle NED-376 J5 on enclosed inquiry slip ▲

SPEED UP SHEET STEEL HANDLING *with the* VERSON *Sheet Floater*

FREE BULLETIN tells how

The Verson Sheet Floater quickly and economically separates steel sheets and blanks for feeding presses, brakes, shears, etc. It magnetically separates the sheets—causes them to fan out for easy grasping. Feeding is speeded up and the possibility of die damage due to feeding more than one piece is minimized. The Sheet Floater can be used for rectangular, round and most odd shaped pieces. It is especially helpful on oily or burred steel that tends to nest when stacked. 3 models in 10 sizes each plus a Special Heavy Duty Adjustable Model. Send for bulletin.

A Verson Press for every job from 60 tons up.

-Verson- **VERSON ALLSTEEL PRESS CO.**

9329 S. Kenwood Ave., Chicago 19, Ill. So. Lamar at Ledbetter Dr., Dallas, Tex.

▲ For more details circle NED-377 J5 on enclosed inquiry slip ▲

Cut "DOWN" time and Maintenance Costs

with the NEW K-500 Drain and Supply line Cleaner — for lines from 1¼ to 12"

Especially designed for industrial maintenance departments the K-500 works wonders in opening clogged industrial or sanitary drains and supply lines. To reduce costly "down" time to a minimum, the K-500 is completely "packaged." The machine, sectional cables and assorted cutting tools are all carried on the ball-bearing wheel dolly from which the machine operates. Easily and safely handled by one man, this rugged and dependable machine drives up to 200' of sectional cable through all traps and bends. (Larger power units are available for longer runs.)

700 R.P.M. cable speed assures fast and complete cleaning. Patented, instant-acting clutch provides finger-tip starting, stopping or reversing. Electric, air or gasoline power.

Hundreds of "famous names" have proved the superiority of Kollmann machines. Ask us about those in your field.

KOLLMANN MFG. CO. • ERIE, PA.

▲ For more details circle NED-378 J5 on enclosed inquiry slip ▲

"*Safety* is no accident"

THAT'S WHY many plant managers have "safe-treaded" danger spots and heavy traffic areas with USS Multigrip Floor Plate. Evenly spaced flat-topped risers on Multigrip give sure-grip traction to feet and wheels. Multigrip is made from tough steel to last for years without chipping, cracking, splintering or rotting. It's easily cleaned, a hose or broom does the job, and it drains freely in all directions. Use it structurally or as a floor covering. Multigrip can be bent or formed and is available in large plates for economical installation.

UNITED STATES STEEL CORPORATION, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS multigrip USS

FLOOR PLATE

Sold by leading distributors from coast to coast

UNITED STATES STEEL

▲ For more details circle NED-379 J5 on enclosed inquiry slip ▲

NEW 'SHEAR-SEAL' AIR VALVE

Manual 4-Way Valve

With Spring Return

DESCRIPTION:
Manually operated 4-way valves for up to 250 P.S.I. air service. Port sizes ¼" and ⅜". With or without return (spring return to reverse or to center). Made entirely from corrosion resisting materials; stainless steel, bronze and aluminum.

FEATURES:
Millions of service-free cycles even on *unlubricated* air. Leakproof to the end because "Shear-Seals" improve with use, cannot be scored or held open by dirt or pipe scale. Excellent throttling characteristics. Flexibility of porting and integral mounting bracket reduce installation cost.

COST:
$18.50 list price for a ¼", $19.50 for a ⅜" valve, less the usual trade and quantity discounts. Add $1.00 for spring return. Buy and try one on a money back guarantee, or write for complete literature 2801.

BARKSDALE VALVES

5125 ALCOA AVENUE, LOS ANGELES 58, CALIFORNIA

▲ For more details circle NED-380 J5 on enclosed inquiry slip ▲

HANDLING "TOUGH" MATERIALS?—

Left Top: *A 60' Carrier Natural-Frequency screening conveyor for clay products, with 24" pan made of ¼" steel plate. Capacity: 100 tons of 100-pound material per hour. 5 H.P. drive. Middle section of screen removed to show supporting bridge.*

Above: *Close-up of drive—note patented drive linkage which always places weight of vibrating pan and conveyed materials on the spring supports, and never allows these loads to be imposed on the eccentric shaft and bearings.*

Handling anything Hot, Sharp, Powdered, Oily, Abrasive, Sticky, Granulated or Stringy?

CARRIER Natural-Frequency Conveyors work on a unique, patented vibrating principle which permits them to handle many materials that are too "tough" for most screw, belt, apron, vibrating and other conventional types of conveyors. These spectacular new conveyors also substitute the natural resonance action of coil springs for brute force. Result—*a tremendous reduction in power . . . far less wear-and-tear . . . and an absolute minimum of maintenance and down-time!*

Carrier Natural-Frequency Conveyors—including vertical vibrating spiral types—are now racking up amazing conveying records for scores of America's biggest, most successful industrials. Let us prove to you that they will move *your* product more quickly, efficiently and economically. *Write for Bulletin 111—no obligation of course!* Carrier Conveyor Corporation, 253 Frankfort Avenue, Louisville 6, Kentucky.

CHECK THESE CARRIER ADVANTAGES!

HIGH CONVEYING SPEED (Up to 100 feet per minute)
GREATER CAPACITY (Up to 200 tons per hour)
LESS POWER REQUIRED (About one-third as much as "competitive" equipment)
LESS MAINTENANCE & DOWN-TIME (Less power + good design = trouble-free performance)
NO DAMPENING UNDER LOAD (Designed with extra power for specified load, with positive stroke)
SELF-CLEANING (Continuous, smooth trough—no pockets)
COMBINES PROCESSING WITH CONVEYING (Can screen, dry, cool, dewater, blend, etc.)
WIDTHS FROM 6" TO 48" LENGTHS FROM 5' TO 250' (With pans 16 ga to ½" plate, of any metal, open or enclosed)
BALANCED, VIBRATION-FREE UNITS AVAILABLE (For use on ceilings or light floor construction)

CARRIER NATURAL-FREQUENCY CONVEYORS

▲ For more details circle NED-381 J5 on enclosed inquiry slip ▲

WAREHOUSE WALL BARRIER protects walls, facilitates stacking

Constructed of aluminum alloy, "X" warehouse barrier prevents damage to walls or wire partitions by loading trucks and mechanical lifts. It also acts as

a stop for trucks and fork lifts and brings about uniform pallet loading and stacking. Barrier brackets accommodate standard 2 x 8-in. wood bars cut to desired length. Red enamel-finished brackets are anchored to concrete or wood floor by expansion bolts. Bracket is 9¼ in. high by 8⅛ in. wide. Made by **Fred Ex Enterprises, Inc.,** Dept. N-3, 469 E. Ohio St., Chicago 11, Ill.

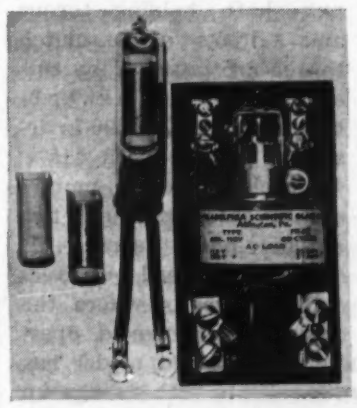
▲ For more details circle NED-382 J5 on enclosed inquiry slip ▲

PORTABLE PHOTOCOPY MACHINE is small enough to fit in briefcase

Inexpensive copies of anything written, printed, typed or drawn can be made with a portable Photo-Copist which is small enough to be carried in a briefcase. Copy in a bound book can also be reproduced, because the machine fits right up to the binding. Device weighs only 12½ lb, and is supplied with separate electric cord and two opaque plastic envelopes for protection of the paper. Copying surface measures 9½ and 14¾ in., and the unit operates on alternating or direct current. Made by **Hunter Photo-Copyist, Inc.,** 595 Spencer St., Syracuse, N. Y.

▲ For more details circle NED-383 J5 on enclosed inquiry slip ▲

MERCURY PLUNGER RELAY has hermetically sealed contacts

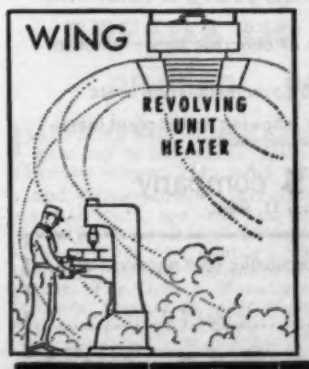


Current loads up to 35 amp at 115 v ac can be controlled readily with line of ceramic plunger mercury relays. These units have hermetically sealed tungsten contacts and are dust and moisture-proof. Interchangeable tubes can be replaced easily if accidentally damaged. Wide variety of mountings is available to suit any application. Made by **Philadelphia Scientific Glass Co.,** 1870 Eckard Ave., Abington, Pa.

▲ For more details circle NED-384 J5 on enclosed inquiry slip ▲

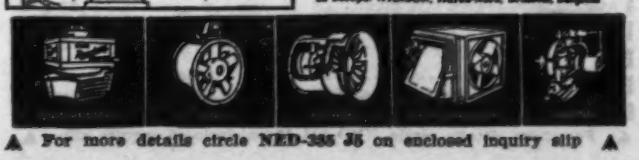
THAT STEADY BLAST OF HEAT!

Why don't they get WING REVOLVING HEATERS?



Wing Revolving discharge unit heaters are the logical solution to this problem. Slowly revolving outlets circulate a stream of warm air, caressing the workers, momentarily, just enough to give a sensation of live, invigorating warmth. Convince yourself—try one. *Write for Bulletin HR-6A.*

L. J. Wing Mfg. Co.
165 Vreeland Mills Rd., Linden, N.J.
Factories: Linden, N. J. & Montreal, Can.
In Europe: WANSON, Haren-Nord, Brussels, Belgium



▲ For more details circle NED-385 J5 on enclosed inquiry slip ▲

BARBER COLMAN

Barcol. Model MC* Door Operators

exclusive safety switch prevents accidents

"Built-in safety" is yours with the Barcol Model MC Door Operator—attendant must *hold* finger on "close" button continuously. In emergency, door reverses the instant button is released. For opening, a momentary touch requires no waiting at the switch. Look for your Barcol distributor under "Doors" in phone book, or write.

*U. S. Patent Nos. 2,262,719; 2,424,385

Barber-Colman Company

DEPT. S59, ROCKFORD, ILLINOIS

▲ For more details circle NED-386 J5 on enclosed inquiry slip ▲

new method of **process heating** and **cooling**

***saves 50%**

- *in initial cost
- *in heating and cooling time
- *in tank space
- *in maintenance labor

Each member of your buying committee should have this book which tells how Platecoils satisfactorily solve tank heating and cooling problems . . . and at the same time save time, money and manpower.

PLATECOIL REPLACES PIPE COILS

Write for your free copy of Bulletin P57 today!

TRANTER MANUFACTURING, Inc., LANSING 4, MICH.

▲ For more details circle NED-387 J5 on enclosed inquiry slip ▲

SHALLOW HOLES . . . DEEP HOLES

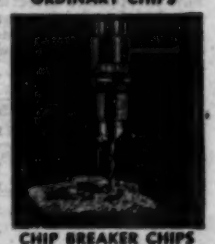
DRILL THEM ALL FASTER, BETTER

WITH A *Commander*

DRILL CHIP BREAKER

✓ Small Chips Permit 50% — 400% Increase in Drilling Speeds
✓ Drill 10 Diameters or More in Depth Without Clearing Drill
✓ Better, Smoother, More Accurate Holes

ORDINARY CHIPS



CHIP BREAKER CHIPS

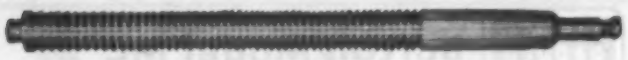
Reciprocating action of the Commander Drill Chip Breaker breaks chips into small pieces that travel up drill flutes . . . permitting higher drilling speeds . . . doubles and triples production of shallow OR deep holes. Long chips which cause drill breakage, scored holes, slow jig and fixture loading, are eliminated—small, easy to handle chips flow up out of hole continuously, permitting coolant to reach cutting edge of drill. Assures longer drill life, more holes per sharpening, more holes per hour.

See us at Booth #502 Metal Working Machinery & Equipment Exposition, Chicago Coliseum, Sept. 6-17.

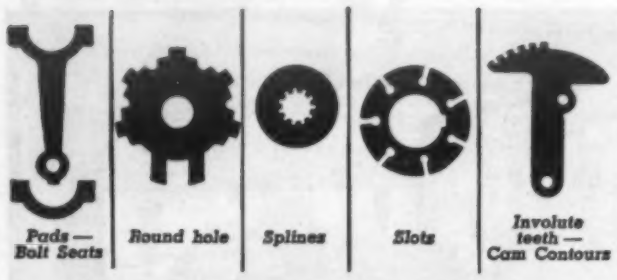
Write FOR CATALOG #851 which describes Commander's Production Tools

Commander MFG. CO.
4220 W. KINZIE STREET
CHICAGO 24, ILLINOIS

▲ For more details circle NED-388 J5 on enclosed inquiry slip ▲



Whatever the job . . . BROACH IT the American way



Whether or not your application for broaching is one of those shown here — and regardless of how simple or complex it may be — American will furnish the broaching equipment to meet your requirements for output, tolerance and finish. American builds all types of broaches, fixtures and broaching machines —backs up its products with a strong service organization to insure that they do the job right.

Send a part print or sample to Dept. M for a free estimate . . . or write for Catalog 450.

American BROACH & MACHINE CO.
A DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

▲ For more details circle NED-389 J5 on enclosed inquiry slip ▲

FOR MORE PRODUCTION..LOWER COSTS

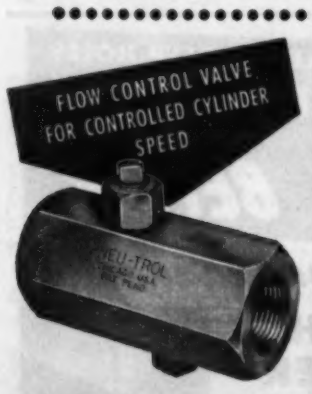
Pneu-trol

Standard drill press units converted for automatic push-button precision tapping and spot-facing operations. Production increase—400%!

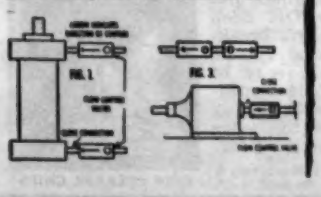
"AUTO-PONENTS"

Pneu-Trol Flow Control Valves and Time Delay Control Switches are *basic automatic components* which permit low-cost conversion of any cylinder operated drill press, arbor press, punch press, etc. to automatic operation. They provide these advantages:

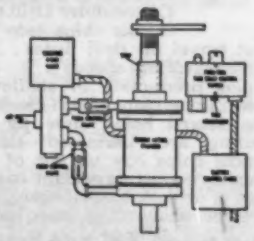
1. **Cylinder (and machine) speed control for safe operation.**
2. **Necessary controlled work cycle delay.**
3. **Less spoilage . . . more production from your present equipment.**
4. **PUSH BUTTON PRODUCTION.**



Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control, and a floating retro ball check, which permits full flow in the opposite direction. Design provides close regulation in one direction, full flow in opposite direction. Available in 5 female pipe sizes—⅛" to ¾". Valve bodies made of brass, aluminum, steel or stainless steel.



Provide controlled adjustable time dwell of solenoid operated air or oil supply valves. Range between ¼ and 60 seconds in 20 to 1 ratios. Compact—simple—foolproof—rugged. Easily mounted on machine. Available for various types of actuation. Typical diagram below.



Pneu-trol DEVICES, INC.
Components for Automation
1432 N. Keating Ave., Chicago 51, Ill.

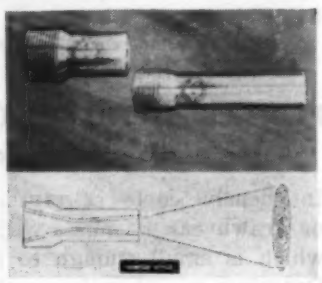
▲ For more details circle NED-390 J5 on enclosed inquiry slip ▲

HARD SAFETY LENSES
resin type withstand high impact

Illustrations show comparative tests with standard safety glass lenses and new Optilite resin lenses which are available in both Plano and Rx styles for industrial safety glasses and goggles. A 44-gram bar with a sharp needle has been dropped a distance of 87 in. on both lenses with the results shown. Lens material weighs half as much as safety glass and has approximately twice the impact strength. Offered by **United States Safety Service Co.**, Dept. NED, 1215 McGee St., Kansas City 6, Mo.

▲ For more details circle NED-391 J5 on enclosed inquiry slip ▲

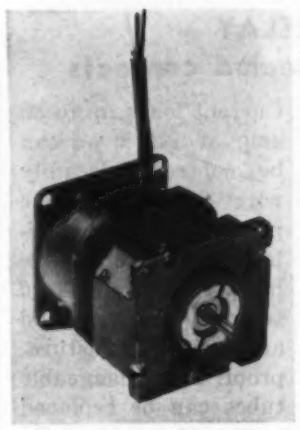
VENTURI NOZZLES
for sandblast machines



Large, uniform, high impact pattern produced by Clemco venturi nozzles for sandblast machines permits the blaster to clean a surface efficiently and rapidly. Nozzles have a tungsten carbide lining for long life. They are available in short lengths for close work, or in longer lengths for hard-to-clean surfaces. Orifice sizes range from 3/16 to ¾-in. Made by **Clementina Ltd.**, Dept. N-12, 2277 Jerrold Ave., San Francisco 24, Calif.

▲ For more details circle NED-392 J5 on enclosed inquiry slip ▲

MAGNETIC CLUTCH-BRAKE
uses alternating or direct current



Mechanical uncoupling of motor and driven unit, 10-millisecond stopping of output shaft, holding torque and adjustable clutch torque are provided by this electromagnetic clutch-brake. Model M-6390 is designed for use with 115-v, 400-cycle induction motors and operates on single, two or three-phase current. It can also be used on direct current circuits where the response of solenoid operated clutches is inadequate. Illustrated model has 2 lb-in. brake holding torque. Units with ratings up to 25 lb-in. at 11,000 rpm are being readied for production. Made by **Air Associates, Inc.**, Dept. NED-1, Industrial Ave., Teterboro, N. J.

▲ For more details circle NED-393 J5 on enclosed inquiry slip ▲

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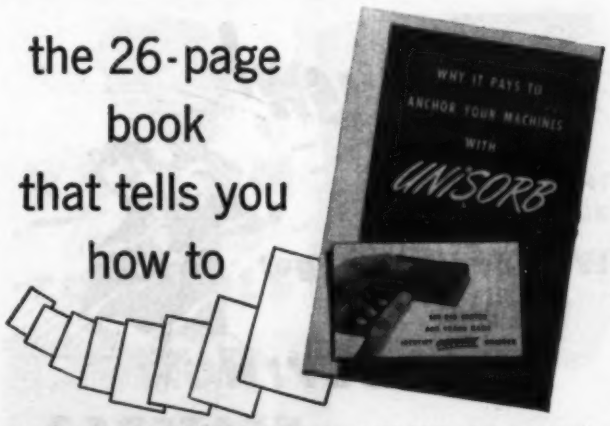
the 26-page book that tells you how to



- ANCHOR MACHINES and eliminate 60-85% of transmitted vibration
- ELIMINATE DRILLING of wood or concrete floors when installing machines
- SAVE TIME and money (up to 30%) on installation costs

For your copy of this valuable book, showing actual plant installations of UNISORB®, return the coupon today.

the FELTERS company
224 South Street, Boston 11, Mass.

Please send me a copy of FACTS ABOUT ANCHORING YOUR MACHINES WITH UNISORB, at no obligation to me.

Name.....Title.....
(Please print)
Company.....
Address.....
City.....Zone.....State.....
Return to: The Felters Co., 224 South St., Boston 11, Mass.

▲ For more details circle NED-394 J5 on enclosed inquiry slip ▲

Eddystone Division
BALDWIN-LIMA-HAMILTON

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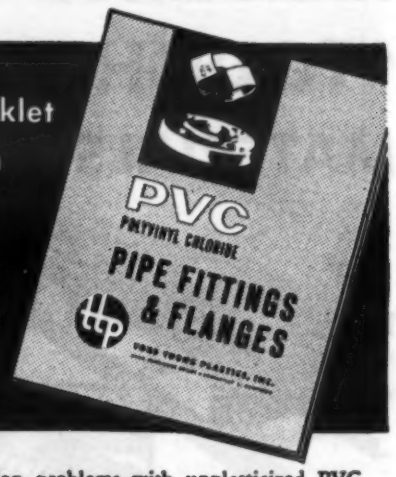
Stop piping corrosion!

This new booklet gives facts on TUBE TURNS PLASTICS PVC fittings



You can solve corrosion problems with unplasticized PVC piping—outlasts and costs far less than metal systems for handling many type of corrosive materials. New booklet gives properties and applications of PVC systems, describes PVC pipe fittings and flanges made by Tube Turns Plastics, Inc., the only source for injection molded PVC products. Produced by the exclusive Hendry process, these PVC fittings are considerably stronger than fittings made by conventional processes. Write Tube Turns Plastics, Inc., Dept., PE-9, 2929 Magazine, Louisville 11, Kentucky.

TUBE TURNS PLASTICS, INC.
224 East Broadway • Louisville 1, Kentucky
Call your **TUBE TURNS PLASTICS'** *Distributor*

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Thousands of dollars worth of protection for only pennies!

Threaded or Plain Plugs and Caps in a wide range of sizes.

Send for free samples and copies of Bulletins P-5312 and P-5203. Address Dept. SP.

Here's a sure cure for costly shipping and handling damage

These low cost protective plastic plugs and caps are just what you need to give your products that vital "ounce of protection" against damaged threads, dirt and moisture. They're quickly and easily applied to any plain or threaded opening—and are available for immediate delivery in a wide range of sizes and styles.

S.S.WHITE PLASTICS DIVISION
10 East 40th St., N. Y. 16, N. Y.

C-4

S.S.White
PROTECTIVE PLASTIC CAPS and PLUGS

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TYGON GASKETS *Resist* CHEMICAL ATTACK

Tygon plastic is tops for gasketing in acid handling service. Tough, flexible, highly resistant to acids and alkalies. Available in sheets, tubes or solid cord from which you can cut your own gaskets quickly and inexpensively. 65E

Plastics and Synthetics Division

U. S. STONEWARE

Akron 9, Ohio

WRITE *for* BULLETIN G-520

▲ For more details circle NED-398 J5 on enclosed inquiry slip ▲

POR-ROK (POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.

2452 WEST 25th ST. • CLEVELAND 13, OHIO

▲ For more details circle NED-399 J5 on enclosed inquiry slip ▲

WIRE-MESH PRODUCTS

for all filtering and straining applications. All meshes, all weaves, all alloys.

Send Specifications for an estimate. Department 11.

THE C. O. JELLIFF MANUFACTURING CORP. SOUTHPORT CONN.

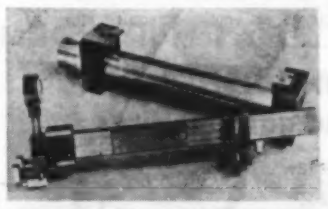
▲ For more details circle NED-400 J5 on enclosed inquiry slip ▲

CUT-OFF SAW cuts rolls of paper

Model 300 paper cut-off saw rotates the roll of paper as it cuts, assuring a smooth finish on the ends. Waste is minimized. A dust collector is incorporated to pick up the fine dust made when cutting paper. Made by **Heston & Anderson,** 607 Kirkwood Ave., Fairfield, Iowa.

▲ For more details circle NED-401 J5 on enclosed inquiry slip ▲

INSIDE-OUTSIDE GAGE for 6 to 48-in. diameters



By interchanging tubing center sections, fully adjustable model 985 gage can measure inside or outside diameters from 6 to 48 in. Gage rests on buttons that have 1 in. adjustment. Gaging depth is easily adjustable to 2 in. Companion to gage is the model 10,300 Adjustable Master which utilizes the removable center sections for different diameter work. It has hardened rest plates, a quick-adjusting anvil and a full inch of anvil face. Made by **Boice Mfg. Co.,** Dept. NED, Albany Post Rd., Staatsburg, N. Y.

▲ For more details circle NED-402 J5 on enclosed inquiry slip ▲

PILLOW BLOCKS line includes flange cartridge units

Developed for medium duty service, a line of SCM ball bearing pillow blocks includes wide range of shaft sizes and features higher load-carrying capacity than previous models. Line also includes ball bearing flange cartridge mounts. Full self-alignment is provided by the spherical outer race of the ball bearing inner unit which fits accurately in the spherical seat in the semi-steel housing. Metallic-backed synthetic seals are mechanically anchored in position and will not blow out under grease gun pressure. Lubricant is sealed in, and dirt and dust are excluded. Locking pin prevents rotation of outer bearing race, and the bearing is securely locked to the shaft by two set screws. Made by **Dodge Mfg. Corp.,** 600 S. Union St., Mishawaka, Ind.

▲ For more details circle NED-403 J5 on enclosed inquiry slip ▲

SPEEDS UP TWO JOBS!

painting...and purchasing

PAINTERS will tell you that your best buy in brushes is "Osborn". They last longer. They work faster.

And, Osborn Brushes save purchasing manhours, too. You can get *all* of your power, paint and maintenance brushes from one source...automatically...with assurance of top quality. *The Osborn Manufacturing Company, Dept. Z-28, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

MAKES BUYING EASIER. *Write for free pocket-sized Osborn Brush Guide.*

Osborn Brushes

OSBORN BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

▲ For more details circle NED-404 J5 on enclosed inquiry slip ▲

Reducing label inventories —and costs!

Various models and combinations of size, style and finish required the amazing total of some 540 different pre-printed labels to identify Corbin and Russwin Locks, manufactured by American Hardware Corporation.

This astonishing total has been reduced to four basic Avery pressure-sensitive Labels—pre-printed with standard information—and imprinted for each particular job, *as it is used!* Additional savings were made in the speed of applying Avery pressure-sensitive Labels directly to the hardware cartons by an Avery electric dispenser.

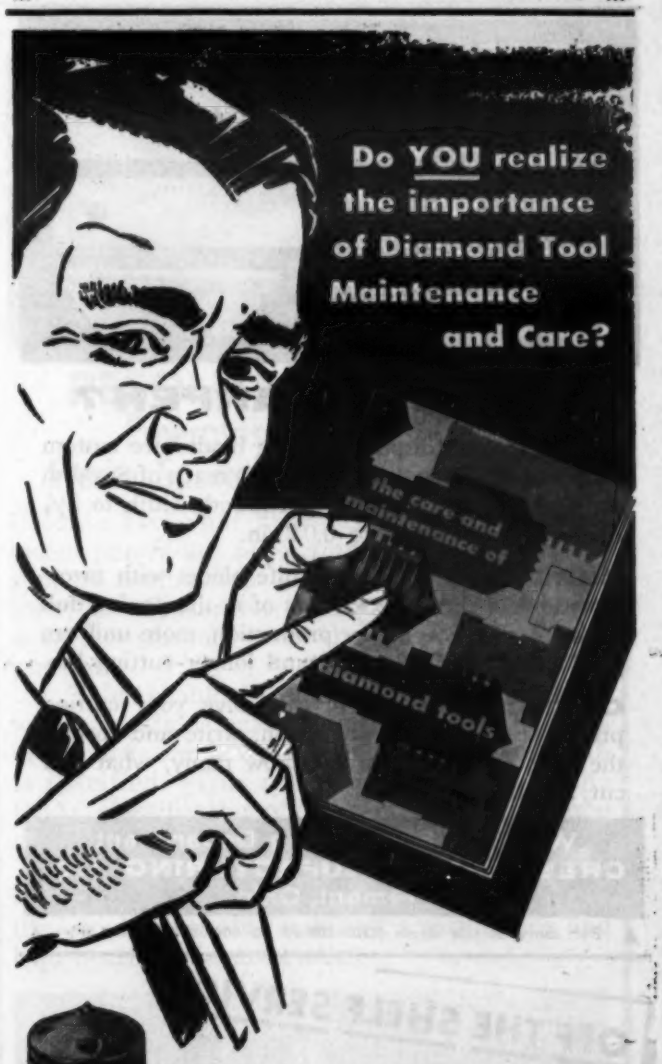
The case history above is just one of thousands where Avery pressure-sensitive Labeling put additional profits into a business. Whether the problem is promotion, packaging, or inventory control, there's a job Avery can do for you! For free samples and additional details, write today.

Avery labeling helps build a better business

AVERY PRESSURE-SENSITIVE LABELS

AVERY ADHESIVE LABEL CORP., *Custom Div. 102*
117 Liberty St., New York 6
408 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.
Offices in other principal cities

▲ For more details circle NED-405 J5 on enclosed inquiry slip ▲



Stakool Model

Cluster Model

Sure, we want to sell you Diamond Tools! However, we also feel there is a definite need of knowledge as to how to take care of the Diamond Tools you already own. That's why we have compiled, edited and printed a booklet which will help you with your diamond tool care and maintenance problems. It's yours for the asking. Merely write for your copy of "The Care and Maintenance of Diamond Tools."

And—when you're again ready to replace wornout tools and if you require engineering advice on industrial diamond products, consult J. K. Smit & Sons . . . We've been in this business since 1888.

J. K. SMIT & SONS, INC.
HOME OFFICE AND PLANT
MURRAY HILL NEW JERSEY
3123A

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Why buy random length tubing when Bishop can save you money on

CUT LENGTHS?

FABRICATED TUBULAR PARTS?

Bishop, the only redraw mill that specializes in fabricating tubular parts, can offer economical service because "under one roof" re-drawing and manufacturing facilities mean savings in time, transportation and handling . . . and eliminates spoilage or waste.

You can be sure of Bishop quality because Bishop pioneered small diameter stainless steel tubing and have been precision craftsmen since 1842.

Try Bishop on your next order, and save. Catalog on request.

J. BISHOP & CO. Platinum Works
Stainless Steel Division • Malvern, Pa.

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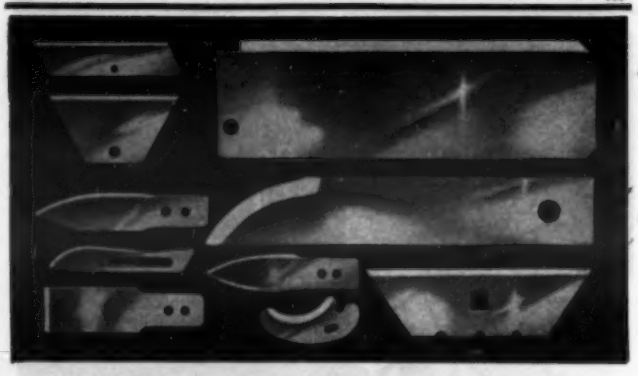

WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

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OFF THE SHELF SERVICE

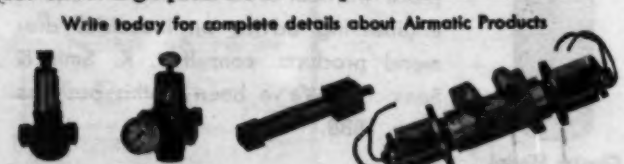
AIRMATIC valves

Flow Control Valves

Your best source for air-hydraulic control valves. Save time . . . Save money on immediate delivery.

Airmatic Valves are simple in design — compact. Yet they are extremely efficient in performance and adaptability . . . Afford best arrangements for machine tool application. A complete line of 2-way, 3-way, and 4-way valves available for either high-pressure or low-pressure installations.

Write today for complete details about Airmatic Products



Sequence Valves — Pressure Regulators — Cylinders — Solenoid Valves

Attractive O. E. M. and Quantity Discounts — Delivery from Stock — Immediate

AIRMATIC VALVE INC.
7317 Associate Ave. Cleveland 9, Ohio

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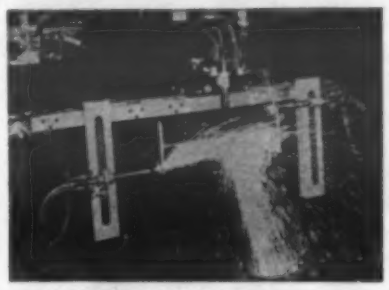
FLAME CUTTER
portable unit cuts structurals



Structural steel from 3 to 36 in. can be straight or miter cut on the Flame Saw. Equipment merely requires connection to 110 v and a set-up of oxygen and fuel gas. The work acts as the table. Addition of an extra length of track and a radius rod makes the portable unit adaptable to any straight line or circle cutting job. It will cut a 24-in. beam in 1 minute and can be used to cut 16-in. thick plate. A roller bearing wheeled, table-height tubular steel carriage is incorporated. Made by **K-G Equipment Co.**, Dept. NED, 1744 Lehigh St., Allentown, Pa.

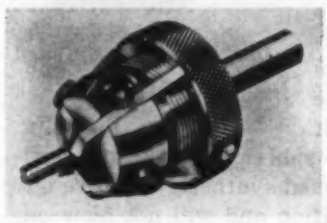
▲ For more details circle NED-410 J5 on enclosed inquiry slip ▲

DRY CHEMICAL EXTINGUISHER
stops large oil and gasoline fires

Operating under 500-psi pressure and utilizing long range nozzle, this dry chemical extinguisher has a 35-ft range for stopping large oil and gasoline fires in a few seconds. It is painted "highway caution" yellow, is equipped with a color gage to indicate status or correct weight of contents and is used by pressing a button. UL-approved units are available in 6, 12, 20 and 30-lb sizes. Made by **Randolph Laboratories, Inc.**, 26 E. Kinzie St., Chicago 11, Ill.

▲ For more details circle NED-411 J5 on enclosed inquiry slip ▲

TUBE BURRING TOOL
sizes for 3/16 to 5/8-in. tubing



Pilot reamer of this standard tube burring tool guides it for uniform chamfers and eliminates any burr on the inside of the tubing. Tool faces the tube end and chamfers the inside and outside. Reamer is ground 0.0015 to 0.002-in. under the tube ID and is ½-in. long. Tool is adjustable for accurate size control and is available in sizes for 3/16 to ⅝-in. OD tubing with wall thicknesses from 0.020 to 0.049-in. Made by **Genesee Mfg. Co.**, Dept. TB-10, 566 Hollenbeck St., Rochester 21, N. Y.

▲ For more details circle NED-412 J5 on enclosed inquiry slip ▲

NORGREN SPRAY-LUBE SYSTEM
as applied by SQUARE D CO. to multiple tapping operation

speeds production 30%

and in addition:

- eliminates time and labor formerly required for draining and wiping tapped parts
- relieves one man for more productive work
- elimination of flood system greatly improved working conditions
- substantial saving in lubricant.

For complete data on this Norgren Spray-Lube application write for Bulletin 11-2.

C. A. Norgren CO.
3405 So. Elati, Englewood, Colo.

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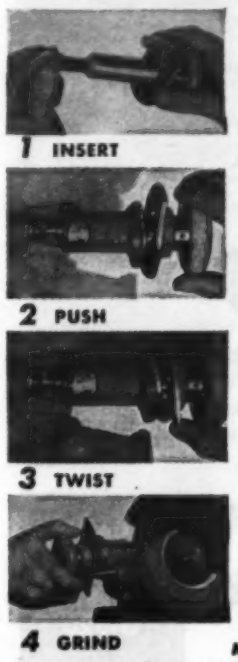
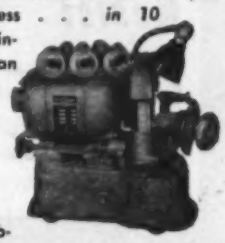
Now....Old Drills Good As New!



The BLACK DIAMOND Drill Grinder restores a worn drill to like-new precision sharpness . . . *in 10 seconds!* Any inexperienced man (or woman!) is an expert grinder with this unit. Both lips ground at once . . . web-thinning equally simple! Pays for itself many times over!



FREE BULLETIN

Get all the facts! 4 page illustrated bulletin gives complete story. *Write Today!*

BLACK DIAMOND
SAW & MACHINE WORKS
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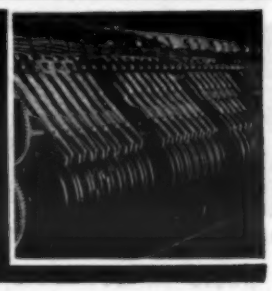
multi-circuit sequence control

custom-built from standard parts



atc®

CAM TIMERS

Automatic control of sequence and duration is simple, accurate, easily and quickly adjusted or changed on ATC Cam Timers. Cam cycles of any time interval and leaf-spring contacts of all types available.

For complete data, write for Bulletin No. N-20. Automatic Temperature Control Co., 5225 Pulaski Avenue, Phila. 44, Pa.

▲ For more details circle NED-415 J5 on enclosed inquiry slip ▲

Let us show you How/PHONE or WRITE

ALLEGHENY STEEL BAND COMPANY
BOX 716, PITTSBURGH 30, PA. • WAlnut 1-7100

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Gives superior protection because aluminum particles "leaf" as the asphalt base dries forming a firm metallic shield that resists weather and reflects the hot destructive sun rays.

Reduce maintenance costs . . . one coat, low cost, long life protection. One gallon covers above 250 square feet. Applies easily either brush or spray . . . ready to use, just stir in the container.

High quality formulation of Karnak Asphalt Aluminum Coating is certified by the Warranty Seal which is attached to every container. This composition of asphalt aluminum flakes and proper solvent provides the utmost in reflectivity for heat reduction and protective qualities against the destructive elements of the weather. This makes Karnak superior for roofs, metal surfaces, brick and masonry, storage tanks, tank cars, refrigerated buildings and trucks. Manufactured by the Lewis Asphalt Engineering Corporation, 30 Church Street, New York 7, N. Y. Dept. 331

Write for the two-minute test. Shows how the asphalt penetrates and the aluminum flakes form an opaque metallic shield that reflects and protects.

© L.A.E. Corp.

Call for **Karnak** there is no better

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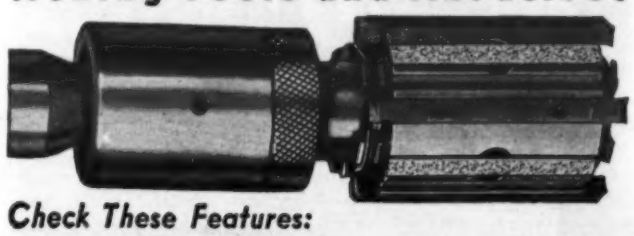
BARNESDRIL

Honing Tools and Abrasives



Check These Features:

- ✔ ***Body Support*** — freer cutting action due to support of stone close to cutting edge. Less spalling and wear.
- ✔ ***Greater Stone Life*** — more usable abrasive with Plas-T-Clad Stone design. Reduced downtime for replacement.
- ✔ ***Electronic Feed*** — automatic compensation for stone wear, and maintains proper pressure between stone and work at all times.

Get Complete Data in Catalog 500Y

BARNES DRILL CO.
866 CHESTNUT STREET • ROCKFORD, ILLINOIS

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solve countless sealing problems!

- High quality, *compression molded Precision "O" Rings* assure trouble-free, leak-free sealing with gases, oils, gasoline, water, cooling fluids, refrigerants and many other special liquids.
- *Precision "O" Rings* meet S.A.E., J.I.C., A.S.T.M., A.M.S. and all military or commercial specifications and standards.
- *Precision*, the nation's largest exclusive producer of "O" Rings, provides the greatest range of sizes available.

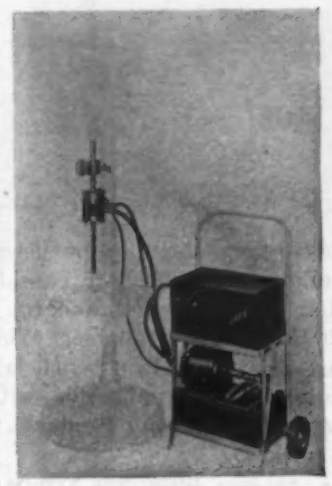
Engineers everywhere are finding *Precision "O" Rings* the best solution to countless sealing problems. Let us help you with your design. Send us your inquiries. We want to serve you.

FREE-HANDBOOK OF "O" RING DATA ▶

Precision Rubber Products Corp.
Dept. 7, Oakridge Drive • Dayton 7, Ohio

▲ For more details circle NED-419 J5 on enclosed inquiry slip ▲

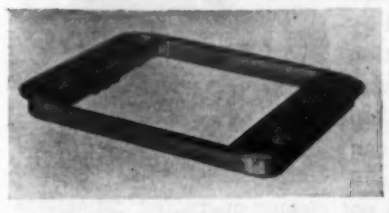
METAL DISINTEGRATOR removes broken taps and drills



Rapid and complete removal of broken taps, drills and other metal objects is possible with the Jiffy metal disintegrating machine. A synchronized disintegrator, it operates without need for electronic tubes, rectifiers or condensers. Equipment is mountable on portable cart as shown for use on any drill press or other spindle type machine tool. Made by **Jiffy Disintegrators Inc.**, Dept. N, 109 E. Nine Mile Rd., Detroit, Mich.

▲ For more details circle NED-420 J5 on enclosed inquiry slip ▲

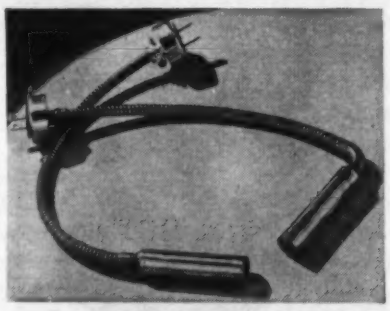
MAGNESIUM PALLET DOLLY available in capacities to 4000 lb.



Redesigned magnesium pallet dollies have rounded-side phenolic resin rollers and heavy duty roller bearings for easy manual movement and 360-degree turning. Available in sizes from 36 x 36 in. to 48 x 48 in., they have capacities to 4000 lb. An average model weighs only 37 lb. Rollers can be added or removed to change capacity. Made by **Magnesium Co. of America**, Materials Handling Div., Dept. N, East Chicago 19, Ind.

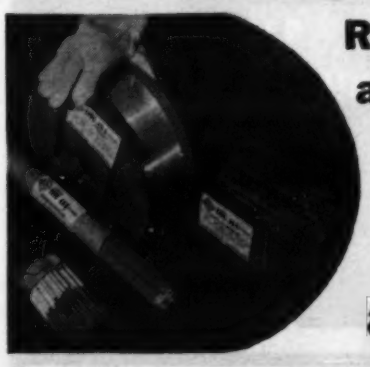
▲ For more details circle NED-421 J5 on enclosed inquiry slip ▲

FLEXIBLE BRASS CONDUIT shields cartridge heater lead wires



Entire length of electric cartridge heater lead wires is protected against abrasion, flexing stress and other moving parts by Chromalox flexible brass conduit enclosure. Conduit and fittings are attached to the cartridge sheath and are unaffected by operating temperatures. It is available on new electric cartridge heaters in range of lengths and wattages for ⅜, ½, ⅝ and ¾-in. diameter heaters, with straight connection to heater or with 90-degree fitting for use in confined spaces. Made by **Edwin L. Wiegand Co.**, 7509 Thomas Blvd., Pittsburgh 8, Pa.

▲ For more details circle NED-422 J5 on enclosed inquiry slip ▲



Reduce costs and improve results on welding aluminum

Arcos offers you three ways to meet these important demands today.

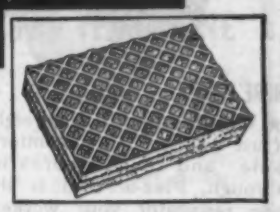
First, the Arcos aluminum line offers a *complete selection* of coated and bare rods and electrodes in a variety of grades—also coiled, cut and spooled. Second, through rigid controls in manufacture, you're assured *weld metal of highest quality.* Third, Arcos technical service can be called upon at any time to give you *help on the job.*

For a good start, write today for this Application Chart of Arcos Aluminum Welding Rods and Electrodes.

ARCOS CORPORATION
1500 South 50th Street, Philadelphia 43, Pa.

▲ For more details circle NED-423 J5 on enclosed inquiry slip ▲

Quiet Heavy Machinery With AIR-LOC* 4-17-4



Save 50% on installation

NO BOLTING CEMENTING WAITING

AIR-LOC lifetime Bakelite vinyl-cushion machine pads absorb vibrations and shock loads. They reduce noise, improve machine performance and extend life. Pads withstand repeated loadings up to 1000 psi and are re-usable. Pads are unaffected by oil, water, brine or chemicals. Machines are readily leveled by shimming. Free sample available. Send for bulletin "Introducing AIR-LOC"

*Registered trade mark Pat. Pending

CLARK • CUTLER • McDERMOTT CO.
FRANKLIN, MASSACHUSETTS

▲ For more details circle NED-424 J5 on enclosed inquiry slip ▲

RESOLITE FIRE-SNUF Fiberglass Panels With Flame Spread Rating Below 75*

Resolite Fire-Snuf fiberglass-reinforced, translucent panels are *self-extinguishing* and will not support combustion. Under the fire of a blowtorch they burn, but extinguish themselves almost immediately when the heat and flame are removed.

They should be used for skylights, sidewalls, partitions and glazing where fire hazards are unusual or a flame spread rating below 75 is specified. *This rating is equivalent to the BOAC classification of "slow burning" or "flame retardant."

Fire-Snuf, with permanent flame-resistance locked in, retains all features of standard Resolite—high strength, stability, translucence and load bearing characteristics.

Replace Broken Panes With Shatterproof Flat RESOLITE

Material represents less than 20% of the cost of glazing. The *real* cost is high priced labor. Since fiberglass-reinforced Resolite ends pane replacement, it is actually less expensive, maintenance-wise, than ordinary glazing material.

Resolite transmits almost as much light as clear glass . . . a softer, more diffused light. It spreads a uniform, glare-free light over an entire area, reducing eye strain and increasing personnel efficiency.

Resolite flat panes are as easy to install as ordinary glass. They are available in standard Resolite or flame-resistant Fire-Snuf.

RESOLITE CORP., Box 527, Zelienople, Pa.
Distributors in principal cities, U. S. and Canada
Office and Warehouse, CHICAGO, ILL.
Export Office, HOUSTON, TEXAS

▲ For more details circle NED-425 J5 on enclosed inquiry slip ▲

THE Improved FLEX-A-FOAM DUST MASK

Your best ounce of protection against IRRITATING DUST

HERE'S WHY:

★ **Workers wear it** Lightweight (just 1 ounce), snug, comfortable and easy-to-breathe through, Flex-a-Foam is the *one* respirator your workers actually *welcome*.

★ **It's super-efficient** Flex-a-Foam's pure latex filter protects against nuisance dust particles 100 times smaller than the eye can see!

★ **It's simple** Only four sturdy, long-wearing parts — all interlocking — all *unconditionally* guaranteed.

★ **And—it's economical** *Low first cost* — less than any other *quality* respirator on the market. *Low upkeep* — washable filter outlasts throwaway type by more than 100 to 1!

Dust Protection Your Workers Will Welcome and *Wear*

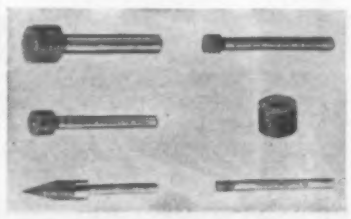
SAMPLE STILL ONLY $1.40 POSTPAID (INDUSTRIAL PRICE ONLY)

FLEX-A-FOAM DUST MASK

FLEXO PRODUCTS, INC., CLEVELAND 13, OHIO

▲ For more details circle NED-426 J5 on enclosed inquiry slip ▲

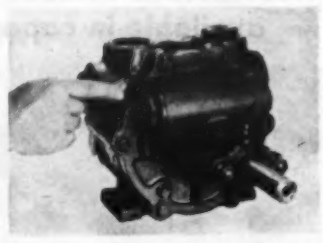
DIAMOND GRINDING WHEELS
usable on carbides, hardened metals



Crushed diamonds imbedded in a carbide matrix is composition of Vinoy diamond impregnated grinding wheels. Manufactured for grinding of carbide dies and bushings, they can also be used on such hardened materials as nitrided or case hardened steels. An 80 diamond mesh is standard, but ranges from 60 to 200 mesh are available. When worn down, diamonds are re-exposed in a bench lathe using a No. 220 grit silicon carbide abrasive with a flat cast iron lap. Made by **Diamond Products, Inc.**, 323 Prospect Ave., Elyria, O.

▲ For more details circle NED-428 J5 on enclosed inquiry slip ▲

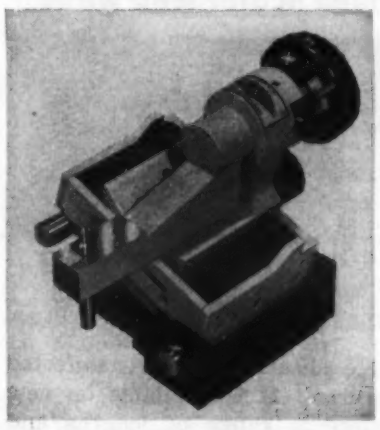
PUMP PULSATION ABSORBER
minimizes pounding in pump lines



Any recurrent or momentary shock pressures are immediately dampened by this Tri-Rotor pulsation absorber. Vibration and pounding in both suction and discharge lines can be reduced as much as 75 per cent. Device does not reduce operating capacities nor does it affect the variable control feature of Tri-Rotor pumps. Constructed as part of the shaft housing, unit can be installed easily on existing Tri-Rotor pumps. Made by **Yale & Towne Mfg. Co.**, Tri-Rotor Pump Dept., 205 Henry St., Stamford, Conn.

▲ For more details circle NED-429 J5 on enclosed inquiry slip ▲

PRECISION WHEEL DRESSER
settings made with gage blocks



Accuracy of setting is assured with this Tang-A-Sine combination angle and wheel dresser because gage blocks are used for this purpose. Moving parts are protected from emery dust by neoprene bellows. Brass shoe holds the diamond shank securely without marring it. Price is $595, including one diamond and felt-lined carrying case. Made by **Vamco Machine & Tool Co.**, 1737 Main St., Pittsburgh 15, Pa.

▲ For more details circle NED-430 J5 on enclosed inquiry slip ▲

UNITABLE® BELT CONVEYOR

For Assembly - Inspection - Packaging

The most ADAPTABLE portable conveyor you can find. Exclusive 'unitized' design 10' to 80' lengths. Write for UNITABLE Bulletin now.

CONVEYOR SPECIALTY COMPANY INC.
37 Newport Avenue
North Quincy 71, Mass.

▲ For more details circle NED-432 J5 on enclosed inquiry slip ▲

Read this CRANE data before you buy any regulator

How Crane Pressure Regulators *assure* the dependable automatic control of steam or air you want is fully explained in this Crane folder, sent by return mail. You'll see the design details of this famous Crane regulator that *holds* predetermined outlet pressure even when there is no demand—even on dead-end service. Also included is a handy table to help you select the proper size regulator, plus service recommendations and diagram showing recommended hookup.

For your copy, drop a postcard to Crane at the address below. Ask for folder AD 1607-R.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

▲ For more details circle NED-433 J5 on enclosed inquiry slip ▲

Rugged and Versatile

Model JRF-½

Phil-Dump Jr.

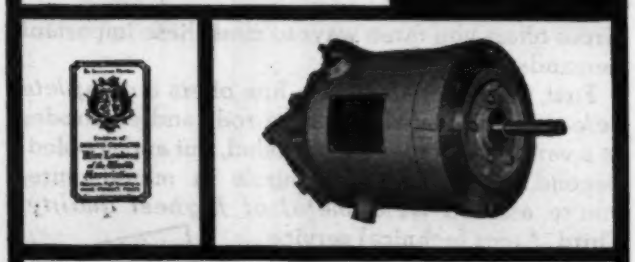
Sturdily built to withstand rough fork truck service, the versatile Phil-Dump Jr. is still designed and sized for speed and convenience when propelled by hand. Features a self-dumping hopper which returns to loading position—automatically locks after emptying. Tires are hard rubber—rear wheel castered. Capacity one-half cubic yard.

Write for Bulletin E-1a.

SALEM-BROSIUS, INC.
Carnegie, Pennsylvania
PHILLIPS MATERIALS-HANDLING EQUIPMENT

▲ For more details circle NED-427 J5 on enclosed inquiry slip ▲

BIG OR SMALL SPECIAL SPRAY-TIGHT SERVICE "A" MOTORS by Peerless



● These Peerless Motors, built to exacting specifications, must withstand tremendous shock, high vibration levels and great temperature changes. After installation they are virtually inaccessible. To remove one costs almost as much as a new motor. Therefore, they must be flawless.

Peerless-customer teamwork engineering made this motor possible. We can apply our motor knowledge to your application in the same way. Let us check your "specs" and give you our recommendations. There's only one obligation—that's our obligation to give you the one motor that will meet your needs best.

THE PEERLESS ELECTRIC COMPANY
FANS • BLOWERS • MOTORS • ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

▲ For more details circle NED-431 J5 on enclosed inquiry slip ▲

cut weld cleaning time by 85%

Throw away your cold chisel and whisk off weld spatter with a dry rag! Protect-O-Metal spatter-proofing compounds make weld cleaning a breeze. Improve your welds at the same time - - P-O-M compounds quiet the arc, improve fusion and electrode operation, prevent oxidation and annealing scale, cause no porosity. No smoke, odors, or fumes.

P-O-M No. 2. Non-inflammable, non-toxic, water-soluble paste. Inorganic. Thin before applying and start welding at once. $3.25 per gallon, f.o.b. Dayton.

P-O-M No. 8. Rust- and corrosion-resistant resin base compound. Comes ready to use. Safe for all metals. Good paint primer; permits outdoor storage of subassemblies. $3.30 per gallon, f.o.b. Dayton.

MONEY-BACK TRIAL OFFER

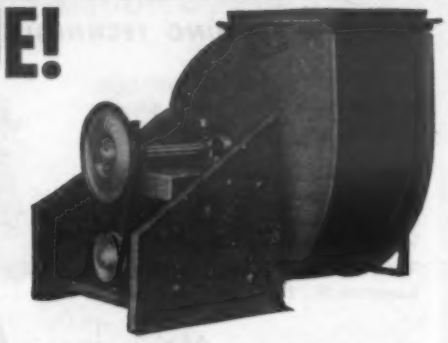
Order a trial gallon of each today for testing in your shop. We'll cancel the bill if you're not satisfied.

PROTECT-O-METAL

G. W. SMITH & SONS, INC. 5406 KEMP ROAD, DAYTON, O.

▲ For more details circle NED-434 J5 on enclosed inquiry slip ▲

TOP VENTILATION VALUE!



*these versatile, lightweight "package" fans with the "Q" Factor**

You can't beat "Buffalo" Belted Vent Sets for quiet, economical ventilation of plants, warehouses or offices. High-efficiency "Buffalo" rotors and properly shaped housing scrolls give you the most air for your driving power. No expensive foundations required. Capacity can be varied at any time—motors and pulleys are easily changed. Non-overloading, regardless of system pressure. Models for indoor or outdoor installations. Also corrosion-resistant types. Write for Bulletin 3720A today!

"Buffalo"

*The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.

BUFFALO FORGE COMPANY

215 Mortimer Street Buffalo, N. Y.

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

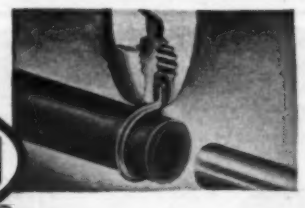
Sales Representatives in all Principal Cities

INDUSTRIAL EXHAUSTERS • BELTED VENT SETS

PROPELLER FANS • "E" BLOWERS-EXHAUSTERS

▲ For more details circle NED-435 J5 on enclosed inquiry slip ▲

Top-Drawer Service
Top-Grade Quality



CORBIN®

SELF-TIGHTENING HOSE CLAMPS

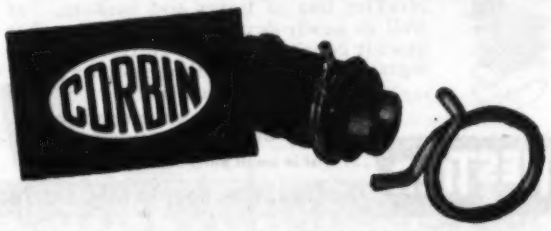
Save time, trouble, and money by using Corbin Self-Tightening Hose Clamps, the original permanent spring-tension clamp that is slipped over the connection . . . and when released automatically provides a positive, everlasting seal.

These Hose Clamps have won such widespread acceptance that virtually every automotive and appliance manufacturer in the U. S. A. is now using them.

Many users claim that when they switched from the older "screw-on" type to these self-tightening clamps, they were able to reduce labor costs by an amount almost equal to the total price they pay for Corbin-Design Clamps.

Stocked for IMMEDIATE shipment in ALL sizes to fit hoses 3/8" to 2 5/8" diam.

Write or phone for complete details. Corbin Hose Clamp Division, The American Hardware Corp., New Britain, Conn.



The Original Manufacturer of Self-Tightening Hose Clamps

▲ For more details circle NED-436 J5 on enclosed inquiry slip ▲

Does jobs no drill can do...
Does many jobs *better!*

Clark "HOLE-MAKER"

Produces round, true holes in CASTINGS, FORGINGS, BOILER PLATE, THIN SHEET STOCK, PIPE, TUBING, ETC.; Drills CROWNED, CYLINDRICAL, FLAT OR WEBBED SURFACES!

No triangular shaped holes, no grabbing on break-throughs, no "walking" on starts with the Clark "HOLE-MAKER"! Produces full-gauge holes from start to finish. Removable pilot guides HOLE-MAKER straight and true even on intermittent cuts. Will also use pilot drill.

Ideal production tool on TURRET LATHES, CHUCKING MACHINES, RADIAL DRILLS, DRILL PRESSES, PORTABLE ELECTRIC and PNEUMATIC DRILLS. Excellent for rough boring, finishing and trepanning. Cuts all ferrous and non-ferrous metals and other materials. Saves money, replaces large drill inventory... Bores castings, forgings, etc. 3 to 10 times faster than single pointing!

5 ADJUSTABLE SIZES COVER I.D.'s from 1" to 6"

Specify straight shank or MT 2, 3, 4. Other tapers on order.

MODEL	CAPACITY
102	1"–2"
203	2"–3"
304	3"–4"
405	4"–5"
506	5"–6"

When ordering, specify material to be cut.

ROBERT H. CLARK COMPANY
9330 Santa Monica Blvd., Beverly Hills, Calif.

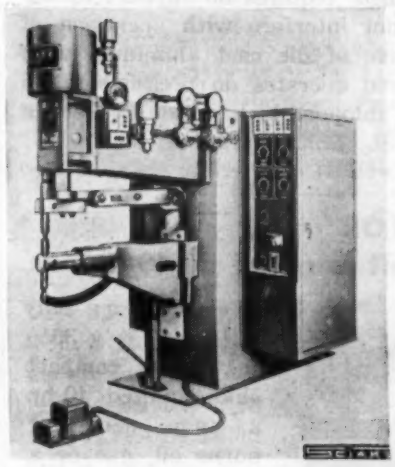
▲ For more details circle NED-437 J5 on enclosed inquiry slip ▲

HEAVY DUTY RELAYS
models with 2 to 12 poles

Each pole in type PM heavy duty control relays is mounted in its own melamine block. They are individually removable and replaceable. The line of 10-amp models has 2 to 12 poles. Enclosure of the poles on top forms a continuous melamine shelf on which wiring can be run. Two basic sizes cover all ordinary needs from two to eight poles, and two magnet coils for a given voltage will cover almost any combination of normally-open and normally-closed contacts up to eight poles. Conversion from normally-open to normally-closed, or the reverse, can be made in the field. Pressure type terminals are wide enough for three No. 12 wires, with or without staked connectors. Made by **Clark Controller Co.**, 1148 E. 152nd St., Cleveland 10, O.

▲ For more details circle NED-438 J5 on enclosed inquiry slip ▲

PRESS TYPE SPOT WELDER
air-operated three-phase unit rated 100 kva at 50 per cent duty cycle



Throat depth of 36, 48 or 54 in. and electrode force up to 4300 lb with 80 psi line pressure can be obtained in this air - operated three - phase Modu-Wave PMCO 2ST spot welder. Press-type unit is rated 100 kva at 50 per cent duty cycle and will make consistent high quality welds on wide range of low carbon steel, aluminum and magnesium alloys and air hardenable and stainless steels.

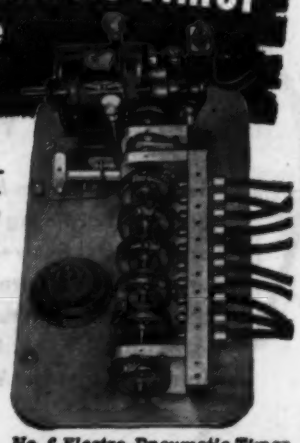
Hinged cabinets on each side of welder have full-opening doors for accessibility to transformer compartment and electronic panels. Machine is operated by foot switch which provides for retraction or lowering of head to begin weld sequence. Welder is capable of producing 100 welds per minute on two thicknesses of 0.040-in. light alloys and 130 welds per minute on clean mild steel. Modu-Wave principle satisfies rigid aircraft and Army-Navy resistance welding specifications. Made by **Sciaky Bros., Inc.**, 4517 W. 67th St., Chicago 38, Ill.

▲ For more details circle NED-439 J5 on enclosed inquiry slip ▲

THIS CLEVER, DEPENDABLE

Electro-Pneumatic Timer

Controls Intricate Work Cycles...



This simple but astonishingly ingenious unit distributes air pressure to air-operated cylinders, presses, hammers, work feeders, clamping fixtures, chip blowers, work ejectors . . . each independent as to start, duration and end of cycle. Simply connect up 6, 12 or more cylinders in numerous sequences from 2½ to 33½ seconds. *You need this inexpensive* Mead Electro-Pneumatic Timer for cost-saving automation jobs!

No. 6 Electro-Pneumatic Timer

Front view showing hook-up with four Meadmatic Valves

Write Factory or Nearest Mead Representative For Bulletin NA95

Write for our cost-saving catalog. Or let the Mead Man show you.

(See Volume III Thomas' Register for nearest distributor's address, phone number.)

MEAD SPECIALTIES COMPANY

4114 N. Knox Ave., Dept. NA95, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-440 J5 on enclosed inquiry slip ▲

OFTEN

TWO HEADS ARE BETTER THAN ONE

Often two heads are the only solution to a part or fastener problem. Take just a moment to look at this pump valve-plunger. It's a tricky job calling for two heads and two different shaft diameters. The big problem here was to produce this valve-plunger in *quantity, inexpensively* and *quickly* . . . and Hassall double-heading did the trick.

Double-heading is only one example of the almost limitless possibilities Hassall cold-heading offers you. If you have a fastener problem just send us samples or specifications for a quotation.

WRITE FOR CATALOG . . . with it we will send you our popular decimal equivalent wall chart.

John Hassall, Inc., Box 2178, Westbury, L. I., N. Y.

HASSALL

SINCE 1850 — Hassall — NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

▲ For more details circle NED-441 J5 on enclosed inquiry slip ▲

OPW swing joints

BRONZE • STEEL
ALUMINUM
MONEL

SWING YOUR PRODUCT INTO LINE . . . CONTAMINATION FREE*

*product never enters ball bearing chamber

- UNLIMITED FLOW LINE FLEXIBILITY
- GREATER LOAD CARRYING CAPACITY

The high standard of OPW's Swing Joint performance results from expert designing, precision machining, simple lubrication requirements, soundness of load carrying principle and perfect alignment at all times.

A wide range of styles makes possible many and varied applications for safely handling liquids of diversified viscosity at required temperatures and working pressures.

Write for Catalog F-8 for application, construction details and engineering data.

OPW CORPORATION — OPW — CINCINNATI 25, OHIO

OPW CORPORATION

2729 COLERAIN AVENUE • CINCINNATI 25, OHIO

▲ For more details circle NED-442 J5 on enclosed inquiry slip ▲

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

Booth 148, Production Engineering Show, Chicago, Ill.

WRITE TODAY for full information on the Stackbin System

Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickwire-Stackbin, Ltd., Ottawa

STACKBIN "Stacked and Still Accessible" **SYSTEM**

▲ For more details circle NED-443 J5 on enclosed inquiry slip ▲

LARGE INDEX TABLE HAS *MECHANISM OUTSIDE*

MODEL 48 INDEX TABLE

MAKE ADJUSTMENTS or remove working parts, in minutes, without ever touching the tooling or table itself. All turning and locking mechanisms are on the outside for ready accessibility. Positive accurate index is assured everytime. Cushioned stop prevents wracking jar. Cushion and index speed are both adjustable to compensate for variations in speed and load weight or size. Table will handle loads with diameters larger than the table and almost any weight.

MAY BE EQUIPPED for either air or hydraulic operation. 60-175 lbs. line pressure will do it for air. Sizes from 20-48 inches in diameter with six or more stations. If you need a large dependable table and want the minimum of maintenance and downtime, ask about Air-Hydraulics Model 48.

WRITE TODAY FOR NEW AIR-HYDRAULICS' CATALOG COVERING PRESSES, INDEX TABLES, HAMMERS AND ALLIED EQUIPMENT.

AIR-HYDRAULICS INCORPORATED

816 BELDEN ST. • JACKSON, MICHIGAN

▲ For more details circle NED-444 J5 on enclosed inquiry slip ▲

there's a **THIEF** in your plant!

Like an invisible hand in your safe, **SCRAP** represents the greatest material and man-hour thief of profits in plants big and small in the metal machining industry.

This $5,000 worth of parts was salvaged at 12% of the original cost of parts.

Working with plants throughout the country Elox found these interesting facts...

1. Some employees hide scrap
2. Some employees are afraid to report scrap
3. Some department heads won't admit the amount of scrap they actually have
4. Management didn't know how to solve the salvage problem

Today Elox equipped plants salvage 100% of scrap due to broken taps, drills, reamers, etc., profitably. Even on parts costing as little as 25c.

we can show YOU how!

elox corporation of michigan

738 N. Rochester Rd. • Clawson, Michigan

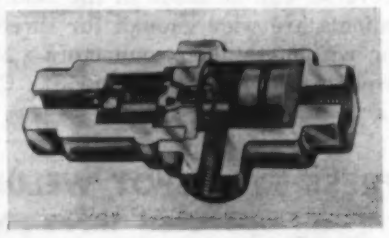
▲ For more details circle NED-445 J5 on enclosed inquiry slip ▲

PRINTED-CIRCUIT RELAY
miniature unit is plug-in type

Developed for use in printed circuitry, this series SQD miniature relay is of direct plug-in type. Design permits insertion of the relay terminals into the printed circuit board, ready for immediate soldering. Two contact arms permit two spring pile-ups of up to nine springs each. Tests indicate life in excess of 100,000,000 operations without need for adjustment or lubrication. Offered by **Automatic Electric Sales Corp.**, 1001 W. Van Buren St., Chicago 7, Ill.

▲ For more details circle NED-446 J5 on enclosed inquiry slip ▲

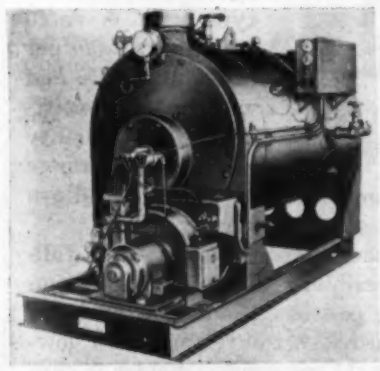
AIR TANK EJECTOR
automatically clears waste materials



Water, oil, carbon and sludge can be removed from air tanks by the George automatic ejector. Designed with two moving parts, it is usable on all types of industrial air equipment. The 10-oz unit is easily installed and maintained, requires no support or adjustment, and does not interfere with operation of equipment. It is made of die cast aluminum with molded nylon seats and operates on pressure taken from the governor or unloaded line. Made by **George Mfg. Co.**, 14 Harvey St., Philadelphia 44, Pa.

▲ For more details circle NED-447 J5 on enclosed inquiry slip ▲

STEAM GENERATOR
packaged unit is rated at 40 hp



Measuring only 83¼ x 57¾ x 36½ in., this compact skid-mounted 40-hp steam generator burns oil, gas or a combination of the two fuels. It delivers 1380 lb of steam per hr, and output is 1,340,000 Btu per hr. Standard design pressures are available from 15 to 200 psi. Automatic operation of this generator is controlled electronically, with all controls conveniently mounted at eye level on the boiler shell. It is shipped as complete packaged unit, ready to cut into the line after connection to fuel, water and electricity. Made by **National-U. S. Radiator Corp.**, Cyclotherm Div., Dept. NED, Oswego 6, N. Y.

▲ For more details circle NED-448 J5 on enclosed inquiry slip ▲

Spindles like These

GIVE YOU PRECISION AND PROFIT FROM YOUR GRINDERS!

Select yours from *hundreds* of Ex-Cell-O precision grinding spindles—all standard models. For years they've been the original equipment choice of leading grinder manufacturers. There's *full information* in the 80-page Ex-Cell-O Spindle Catalog. Write us to send it!

54-9

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

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brush up
ON NEW BENDING TECHNIQUES

Write or call Pedrick for the latest information on production and job bending of pipe, tube and structural metal.

Pedrick bending methods can *save money, increase production, improve accuracy*—on the most complicated as well as the simplest bends. PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Phila. 40, Pa. Dept. 6.

FREE "PEDRICK LINE" BULLETIN. WRITE TODAY. SEE BOOTH 741 NATIONAL METAL SHOW, PHILADELPHIA, OCT. 17-21

PEDRICK production benders

▲ For more details circle NED-450 J5 on enclosed inquiry slip ▲

Get the Facts on new efficiency and economy in small parts handling with... NESTIER

New NesTier Catalog DN-1000 contains the answer to small parts handling problems of all types... gives a comprehensive picture of the savings and increased efficiency possible when you handle parts and products the NesTier way. Standard NesTier line of boxes and baskets... as well as newly-developed equipment that quickly converts NesTier units into an integrated materials handling system ... is illustrated and described.

WRITE TODAY FOR YOUR COPY OF CATALOG DN-1000.

NESTIER ... First in small parts handling
The Chas. Wm. Doepke Mfg. Co., Inc.

8884 Blue Ash Road • Rossmoyne, Ohio

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"*Victor*" METAL FITTINGS *For Better Connections on* PLASTIC PIPE

Made exactly for Plastic Pipe Sizes. Assure easily-made, efficient, durable connections on every type of installation. Electroplated steel or Brass. *Ask your Distributor, or write for illustrated folders.*

ADAPTERS ELLS COUPLINGS TEES WELL-SEAL ELLS and PRIMING TEES • VENTURI JET ADAPTERS UNDERGROUND SPRINKLER ELLS AND TEES • WATER MAIN ADAPTERS, ETC.

"MULCONROY *Starts...* WHERE OTHERS *Stop!*"

MULCONROY COMPANY Since 1887
5331 JEFFERSON ST., PHILADELPHIA 31, PA.

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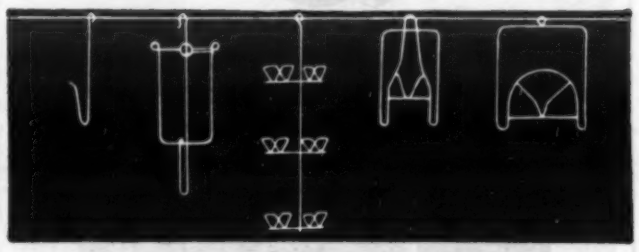
For Electrical Splices

SELF-STICKING
PERMACEL® TAPES
Many jobs can be done faster, better, easier with self-sticking tape . . . write Permacel Tape Corporation, New Brunswick, N. J.

▲ For more details circle NED-453 J5 on enclosed inquiry slip ▲

Come to "Wire Goods Headquarters" for

OVERHEAD Conveyor
• HOOKS • CARRIERS • HANGERS • HOLDERS
• SHACKLES • RACKS • ETC.



Tell your Problem to Titchener!

Specialists in welded-wire products, our wide experience can solve your problem. From simple hooks for small parts to complicated product-holding carriers . . . from shackles for poultry on processing lines to holders for electric light bulbs — Titchener makes 'em all.

If you have a conveyor parts-holder problem, let us help you. In two recent cases, we were able to cut the cost of a bulb holder 50%, and of a poultry shackle 75%! Perhaps we can do the same for you.

WIRE GOODS Headquarters

• Our new case history booklet contains a few specific examples of what we've done in this field. Write for your free copy.

E.H. Titchener & Co.
79 CLINTON ST. • BINGHAMTON, N.Y.

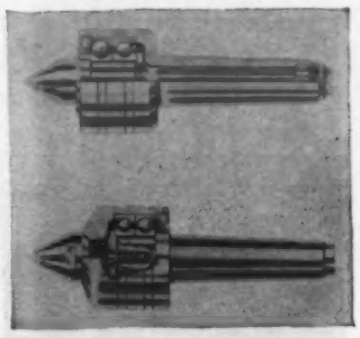
▲ For more details circle NED-454 J5 on enclosed inquiry slip ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ For more details circle NED-455 J5 on enclosed inquiry slip ▲

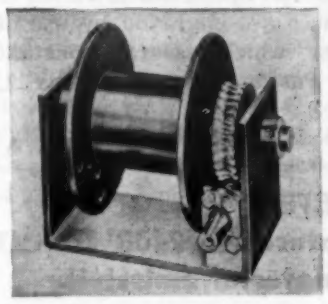
PRECISION ANTIFRICTION CENTERS for cylindrical grinding machines



Developed for use on cylindrical grinding operations, Red-E antifriction centers are offered in shank and spindle types. Bearing assembly consists of two matched, precision, preloaded AB5C-7 bearings for thrust and radial loads. Lubrication is sealed-for-life, and labyrinth enclosure seal protects bearing assembly from entry of coolants. Made in full range of sizes by **Ready Tool Co.**, 554-D Iranistan Ave., Bridgeport 5, Conn.

▲ For more details circle NED-456 J5 on enclosed inquiry slip ▲

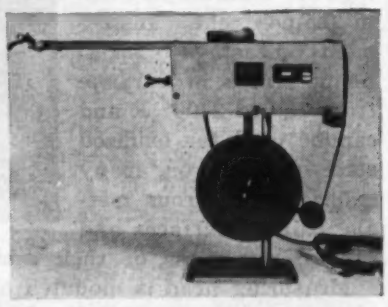
WORM GEAR WINCH has self-locking feature



Loads up to 2000 lb can be pulled, lifted or carried in suspension by this worm gear winch, adaptable to hand or power operation. It incorporates a self-locking feature and has an ample safety factor. Drum has a capacity of 150 ft of ⅛-in. cable or 80 ft of ¼-in. cable. Gear ratio is 29 to 1. Made by **Little Giant Products, Inc.**, Dept. NE, 1530 N. Adams St., Peoria 3, Ill.

▲ For more details circle NED-457 J5 on enclosed inquiry slip ▲

COUNT TAPE INSERTER actuated by preset counter



Tape in any length from 1 to 6 in. can be slipped between production items to facilitate rapid visual counting and packaging operations by this solenoid - actuated Tape - Inserter. It is used with a preset Decitron electronic counter which actuates the inserter when the desired count is reached. At that point it automatically inserts the tape. Applicable to several fields of manufacture, machine offers accurate means for "tabbing" of many stream-fed production items. Counter can be set for any count from 1 to 100. Made by **Post Machinery Co.**, Electronic Products Div., Dept. N9, 155 Elliott St., Beverly, Mass.

▲ For more details circle NED-458 J5 on enclosed inquiry slip ▲

Smooth, versatile Reliance VARIABLE SPEED DRIVES are made to help you keep *everything under control!* Dynamic response for rapid starting, stopping and reversing; hairline accuracy for maintaining required line speeds; positive, step-by-step assurance of optimum speeds during each processing cycle; precise delicate regulation of quantity, quality, color, shape, form and size . . . in fact, EVERYTHING is precisely controlled by Reliance V★S Drives.

Call the nearest Reliance sales office, or write for Bulletin D-2311. D-1498-A

RELIANCE ELECTRIC AND ENGINEERING CO.
Cleveland 10, Ohio • Offices in Principal Cities

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Controlling Flow

If you manufacture any equipment where the control of fluid is important—a Dole Flow Control Valve may solve your problems and save you money, provide a simpler, better product.

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These Dole Valves are now successfully used on the following equipment:

Tankless Heaters
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AND SIMILAR APPLICATIONS

Control with DOLE

Typical Dole Flow Control Valves

THE DOLE VALVE COMPANY
1901 W. Carroll Ave. • Chicago 12, Ill.

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Streamliner 400 new & faster

This brand new, synchronized Ozalid Streamliner 400 handles continuous roll stock and cut sheets up to 42"...prints as fast as 24' per minute.

Big prints, low cost

The accustomed dependability of the Streamliner has been augmented by the newest engineering advances... more efficient mercury vapor lamp, with balanced cooling, synchronized jet developer, and convenient controls ...make the new 400 the best value in the lower priced whiteprint field.

Call the nearest Ozalid distributor *(see phone book)* for a demonstration. Or write 130 Ozaway, Johnson City, N. Y. In Canada, Hughes Owens Co. Ltd., Montreal.

OZALID

A Division of General Aniline & Film Corporation...*From Research to Reality*

▲ For more details circle NED-461 J5 on enclosed inquiry slip ▲

CUT COSTS . . . FASTEN "ON THE DOUBLE" with the Chicago "214" DOUBLE RIVET SETTER

The "214" automatically feeds, inserts and clinches two rivets at a time...with speed that may mean a big saving in your fastening costs.

14" throat makes large assemblies easy to handle. For up to 9/64" diameter steel tubular rivets—lengths to 7/8". Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility.

Ask us how the "214" can help you cut costs. Send a sample of your problem assembly (or blueprint) for a Free fastening analysis.

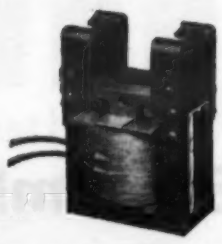
FREE CATALOG contains valuable engineering information and rivet specifications plus illustrated descriptions of 20 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

▲ For more details circle NED-462 J5 on enclosed inquiry slip ▲

SOLENOIDS

G-211 solenoid, 10 lbs. at 85% voltage, 1½" stroke.



NA-726 solenoid; 16 lbs. at 1" stroke, 100% voltage.

G-200 line of solenoids, replacement for General Electric solenoids: G-206 to G-213 both inclusive, push and pull.

NA-700 line of solenoids, replacement for National Acme solenoids, size for size, for all modifications.

The solenoids of both the above replacement lines are all thoroughbred Trombetta solenoids. All dimensions of interest to the user are the same as the respective solenoids they replace. The pull and pull characteristics are identical. In either case, we are in a position to furnish replacement units for any and all modifications. They are available for all voltages and frequencies, including direct current.

See our catalogs in Sweet's Catalog Service. Ask for more information.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

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"Harry Alter gives you quick service"

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ENGRAVING MACHINE features adjustable pantograph

Twenty-three different character sizes from 1/25 to 2 in. can be reproduced from a single templet size on the Scripta SR 54 engraving machine. It is equipped with an adjustable pantograph which has ½:1 to 1/6:1 reduction ratios. Scale change is made by two adjusting screws. Up to six lines of text can be engraved in a single operation. All hinged movements of the pantograph are mounted on ball bearings. Head holds a milling type cutter of 7/64, 5/32, 3/16 or 15/64-in. diameter in a collet. Spindle is driven by a 13,000-rpm 110 or 220-v motor. Speed can be varied to suit work. Curved surfaces are engraved by use of auxiliary depth regulator which assures constant depth. Made by **Scripta**, 7 Passage Turquetil, Paris 11, France.

▲ For more details circle NED-465 J5 on enclosed inquiry slip ▲

PORTABLE PYROMETER checks temperatures to 2400° F regardless of material emissivity

Accurate measurement of high temperatures of metals and refractories surrounded by cooler air can be performed with the English-made Land surface pyrometer. Readings are accurate to within 0.5-per cent. Instrument measures "spot" temperatures in a range from 100 to 2400° F and can be used for oxidized steel or cast iron, many oxidized nonferrous metals, painted surfaces and others, regardless of their emissivity.

Measuring head is mounted on an arm which telescopes to a length of 9 ft. It is normally connected by a trailing lead to a portable millivolt meter calibrated in temperature degrees. Used in this manner it requires no external power supply and readings are obtained 5 seconds after the head is placed upon the hot body. Heat is measured at a point slightly below the surface of the material being measured. Available from **Robertshaw-Fulton Controls Co.**, Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-466 J5 on enclosed inquiry slip ▲

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Please send me FREE, your new catalog, "Liquid Processing Equipment".
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1010 EAST ROAD MILLDALE, CONN.

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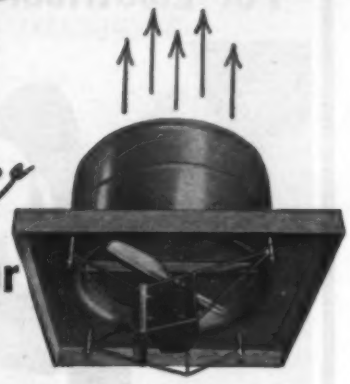
for LOW COST ventilation—

the Hartzell Vertiflow roof ventilator



- simple construction for high efficiency and low cost
- rugged construction for long life
- 23 models — air deliveries from 3000 to 26,400 CFM

Call your nearby Hartzell field engineer or write for details.

HARTZELL propeller fan co.
Div. of Castle Hills Corp.
Dept. G. PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

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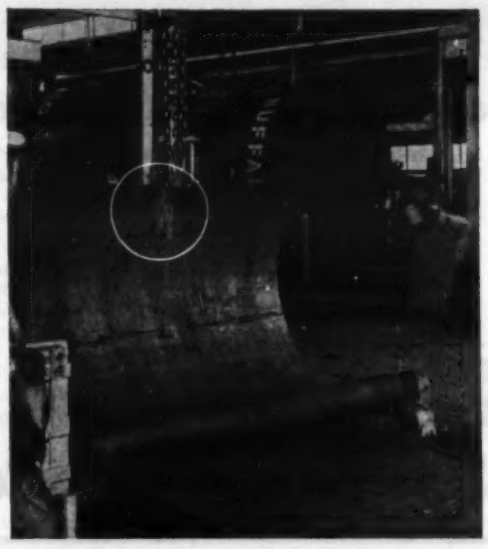
RENFROE

SAFETY LOCK LIFTING CLAMP



The Renfroe Locking Clamp being used in a roll. The lock enables it to be used in rolls, brakes, etc.

A pair of Renfroe Safety Clamps for lifting plates in horizontal position.

J. C. RENFROE & SONS, INC.
Jacksonville, Fla.

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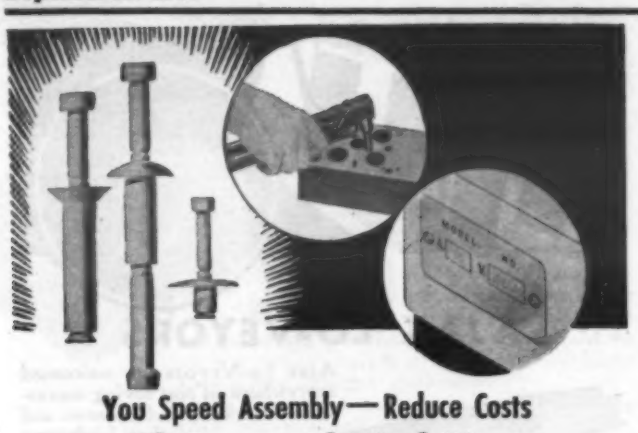

You Speed Assembly—Reduce Costs with Townsend Blind Rivets

In a split second, one man can install this tamper-proof, vibration-resistant blind rivet to give you secure fastening in many applications that otherwise would be slow and expensive.

Townsend blind rivets are installed by one man from one side of the work and are used extensively in blind and limited clearance operations. They provide high clinch and a strong fastening—are ideal for installation of name plates and serial numbers on any unit which must retain its original identity. Radio-TV components are assembled quickly—awnings, jalousies, screens, storm doors and windows are fabricated with ease. Write for Bulletin TL-99.

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

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SNAP GAGES . . . as you want them!

Indicating Snap Gages to suit any whim or necessity.

If you haven't seen just what you must have, ask us about what you want. We also make Air Snap Gages.

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Ask FEDERAL
FOR MODERN GAGES AND GAGING TECHNIQUES . . .

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"COSTS CUT 60¢ per hour per machine"

"... simplified our time study and cost analysis."

"... and, we will install your units on all our machines."

"... meets all our requirements. Ship 35 more units at once."

—just a few of the many comments we receive daily about...

TIME RECORDER-TOTALIZER

• This precision instrument provides accurate, permanent, chronological data about any machine, process or system in plant or office ...on a continuous chart-roll which lasts four months. Uses no ink. Totalizer shows accumulated "on" time.

PRICE $55.

Descriptive literature NE on request

RECORDER DIVISION—DEPT. D
HEAT-TIMER corporation
657 BROADWAY, NEW YORK 12, N.Y.

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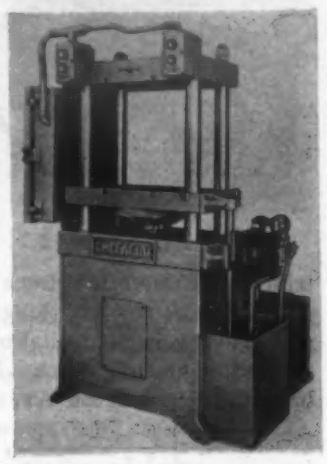
UP-ACTING PRESS conforms to JIC standards and is available in 1½ to 10-ton capacity

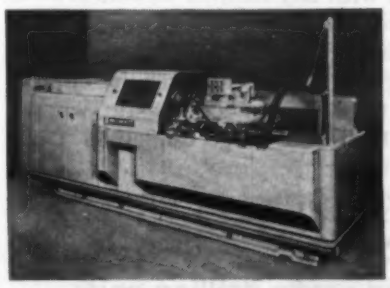


Output in the range of 1½ to 10 tons is readily obtained by adjustment of the relief valve in this model UA-4-10 up-acting hydraulic press. Self-contained, this JIC press has 20 x 14-in. platen, 18-in. maximum daylight opening and maximum platen or ram travel of 16 in. Closing speed is 157 ipm, while return speed of platen is 331 ipm. Pressure can be held for any desired length of time without damage to press or power unit.

Other features are cast Meehanite hydraulic cylinder, steel piston with cast iron rings, chevron type packings, bronze-guided ram and O-ring seals on top and bottom caps. Machine is equipped with a totally-enclosed fan-cooled 3-hp motor and a JIC control panel with a 110-v transformer for the oil-tight pushbutton stations. Made by **Greenerd Arbor Press Co.**, Lock Box X-415, Nashua, N. H.

▲ For more details circle NED-473 J5 on enclosed inquiry slip ▲

TRACING LATHE makes cuts up to ½-in., with speeds and feeds changing automatically



Two-position automatic indexing tool holder on the tracing slide carriage of this heavy duty automatic tracing lathe permits roughing with one tool and extremely accurate finishing cuts with the other. It will hog off metal up to ½-in. deep in one, two, three or four automatically-controlled tracing cuts. A 12-in. back arm can be set to rock in any time during the carriage cycle for rough or finish facing and for cutting grooves. Tool relief is automatic on all finish cuts.

Speed and feed changes can occur automatically during a cut, insuring optimum cutting speeds on changing diameters and angles, as well as permitting roughing at one speed and finishing at another. Headstock has 16 spindle speeds. Four flow control valves and three drums operating electric limit switches comprise the entire set-up for a variety of combination cuts, feeds and speeds. Motor is 40 hp. Made by **Jones & Lamson Machine Co.**, 528 Clinton St., Springfield, Vt.

▲ For more details circle NED-474 J5 on enclosed inquiry slip ▲

HERE'S THE ANSWER TO "TRAVERSE and FEED" AND "CLOSE and HOLD" OPERATIONS !

DUDCO's new PF-100 Series DOUBLE PUMPS with VALVE PANELS...give you 2000 psi "Variable Delivery" Functioning with the Economy and Reliability of Constant Delivery Operation . . . eliminate circuit components and reduce piping . . . assure top system efficiency and increase and improve production from Presses, Casting and Molding Machines, Closing and Clamping Devices, Machine Tools.

TWO VANES ARE BETTER THAN ONE!
The hydraulically balanced DUAL-VANES in DUDCO Pumps, as contrasted with conventional designs, maintain MULTIPLE AREAS OF CONTACT ON THE CAM RING... doubling the number of effective barriers to slippage and power loss. This patented principle is an exclusive DUDCO feature!

Write for Bulletin DP-308... contains performance data, delivery control circuits, installation drawings; suggests applications. It's Free!

DUDCO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1708 EAST NINE MILE ROAD • HAZEL PARK • MICH.
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.

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FREE BULLETIN tells you why it pays to do business with Brainard. Write today for bulletin or call your near-by Brainard representative for on-the-job demonstration.

Brainard
STEEL DIVISION
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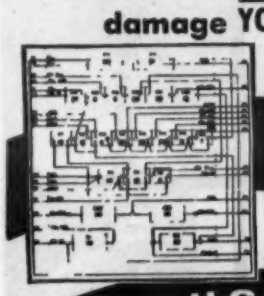
BRAINARD STEEL DIVISION
of the Sharon Steel Corporation
DEPT. Y-9
GRISWOLD STREET, WARREN, OHIO

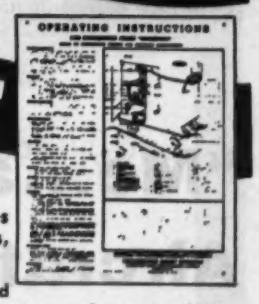
▲ For more details circle NED-476 J5 on enclosed inquiry slip ▲

don't let inferior accessories damage YOUR SUPERIOR PRODUCTS



use printed **PLASTIC**

SCHEMATIC DIAGRAMS



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Plastic adds strength, protection and sales impact to instructions, charts, diagrams, etc., accompanying your products.

As plastic specialists, we are equipped to draw, design and print on plastic sheet any of your product operating and maintenance aids.

Your exact specifications will be met on selection of appropriate typefaces, colors, quantities, finished sizes (up to 29" x 29") plastic thicknesses (.015" to .125") and number and sizes of holes for attaching or mounting to your products.

send us your job requirements for a free and accurate estimate.

Allegheny Plastics, Inc.
Plastic Laminators, Printers and Fabricators Since 1936
51 Thorn Run Road, Coraopolis, Pa.

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Balance Rotating Parts FASTER...EASIER

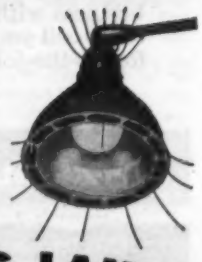
No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy weights. Superior accuracy lasts throughout the long life of the balancing ways. Proved and preferred 38 years. For information on sizes, types, and prices of Anderson Ways, write for Bulletin 9-40.

Anderson
Write for Bulletin 9-40
ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

▲ For more details circle NED-478 J5 on enclosed inquiry slip ▲

New Adjustable-Arm *Air-Cooled* Dazors

Light Machines and Benches at Low Cost

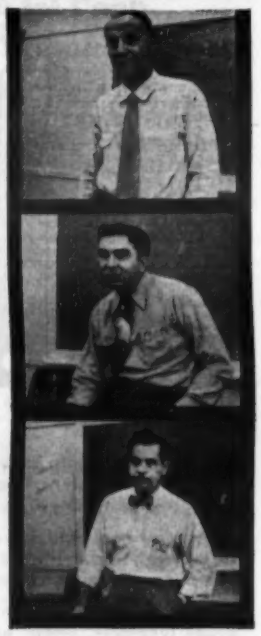


Get cool, efficient lighting with this new Dazor-quality fixture. Holds fast in any desired position, despite vibration or shock. Easily attached. Top-mounted reflector shown above—either 31" arm extension (No. 1100) or 20" (No. 1101). Also side-mounted model. Gray baked enamel over bonderizing. Call your Dazor distributor. Dazor Manufacturing Corp., St. Louis 10, Mo.

...Makers of

DAZOR FLOATING LAMPS

▲ For more details circle NED-479 J5 on enclosed inquiry slip ▲



Three engineers who have made the transition to Aircraft Design through Lockheed's Training Program: E. A. Phelps (top) was a Structural Steel Engineer in Denver, Colorado; H. G. Hauser (center) was a Test Equipment Design Engineer in Grand Rapids, Michigan; R. W. Tetamore was a Mechanical Engineer in Rochester, N.Y.

"Me...an Aircraft Design Engineer?"

Yes, Lockheed in California trains you—at full pay

Engineers find the step up to Aircraft Design an interesting, rewarding experience in Lockheed's Training Program for Design Engineers. It's a program adapted to the individual.

Aircraft engineering experience is not necessary to qualify. Lockheed is interested in your knowledge of engineering principles, your aptitude, your experience in other engineering fields.

When necessary you attend Lockheed engineering classes. You engage in on-the-job training.

Your program may take three weeks — or three months. It depends on your experience and assignment.

After the Training Program is completed you join the most diversified Design effort in the history of Lockheed.

46 major projects are in motion — including turbo-prop and turbo-jet transports, vertical rising aircraft, jet trainers, extremely high-speed fighters, bombers, nuclear applications to aircraft.

This diversification means more scope for your ability; more opportunity for promotion; more job security.

Now in effect: Increased salary rates; increased overtime scales; increased employee benefits; a travel and moving expense program that enables you and your family to move to Lockheed in California at virtually no expense or trouble.

You are invited to write for more information on Lockheed's Training Program for Design Engineers. Address: Dept. DE-20-9 E. W. Des Lauriers, Design Engineer Training Program, Lockheed Aircraft Corporation, Burbank, California.

Lockheed AIRCRAFT CORPORATION
CALIFORNIA DIVISION, BURBANK **California**

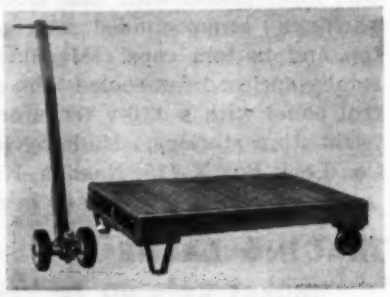
▲ For more details circle NED-480 J5 on enclosed inquiry slip ▲

INDUSTRIAL TRUCK BATTERIES are high-capacity storage type

Featuring Five - Fold Slyver-Clad construction, model 66 and 125 industrial truck storage batteries are reported to provide 10 per cent more capacity than previous units in standard size trays approved by the Industrial Truck Manufacturers specification. This means at least a 10 per cent longer duty cycle. Use of five separate layers of insulation virtually eliminates need for sedimentation space. Made by **C & D Batteries, Inc.**, 408 Washington Ave., Conshohocken, Pa.

▲ For more details circle NED-481 J5 on enclosed inquiry slip ▲

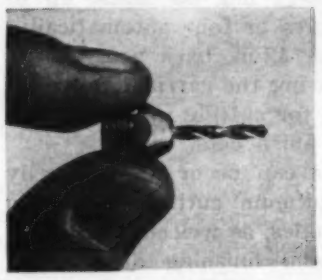
MATERIALS HANDLING SYSTEM uses semilive platform and lift jack



Flexible materials handling in any type of warehousing or storage operation is provided by the Roll-N-Stor lift truck system. It utilizes a patented lift jack and engaging bracket in conjunction with semilive platforms. One or more lift jacks can be used with any number of skid trucks. When not in use, the lift jacks can be conveniently stored in upright position, and the skid trucks can be stacked. Wide range of platform sizes is offered, with metal, rubber tired or molded plastic wheels. Made by **Hamilton Caster & Mfg. Co.**, 1668 Dixie Highway, Hamilton, O.

▲ For more details circle NED-482 J5 on enclosed inquiry slip ▲

BROKEN-DRILL CHUCK fits angle and snake drilling units



Any broken drill can be securely locked into this one-piece miniature chuck by a twist of the fingers. It is available in a wide range of sizes to fit any standard angle or snake drilling unit. Drill capacity range is from No. 50 to No. 10 or 1/16 to 3/16-in. in 1/64-in. increments. Thread sizes are 10-32, ¼-28, 5/16-24 and 9/32-40. Other sizes and threads are available on order. Made by **Drilex Tools, Inc.**, Dept. N, 622 E. Jericho Turnpike, Huntington Station, L. I., N. Y.

▲ For more details circle NED-483 J5 on enclosed inquiry slip ▲

STUDY.... these outstanding features of the New CHESTERMAN Vernier Height Gage

The Most significant advance in a quarter Century of HEIGHT GAGE DESIGN

Sizes Available 12" - 18" - 24" 40" - 48"

Ask for and Compare our Moderate Prices!

If not available at your favorite Supply House — Write to us for 6-Page ILLUSTRATED FOLDER—Code GIPDU

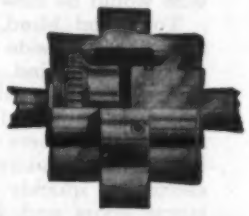
GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200-ND LAFAYETTE STREET • NEW YORK 12, N.Y.

▲ For more details circle NED-484 J5 on enclosed inquiry slip ▲

AJAX LO-VEYORS

Ajax Lo-Veyors are welcomed everywhere as cost saving successors to trucks, wheel-barrows and other high cost methods of manual handling bulk materials. *Ask for Catalog.*

AJAX FLEXIBLE COUPLINGS



Thirty-five years of satisfactory performance on direct-connected pumps, compressors, cranes, conveyors and automated equipment have proved the economy of protecting good machinery with Ajax Flexible Couplings, Rubber-Bronze Bushed or Dihedral gear type. *Ask for Catalogs.*

AJAX FLEXIBLE COUPLING CO. INC.
Westfield, N. Y.

▲ For more details circle NED-485 J5 on enclosed inquiry slip ▲

Is your vapor degreasing solvent giving you these 7 benefits

1. Does it help *prevent* corrosion?
2. Do you get fast drying of parts?
3. Is vapor permeation in the surrounding air low enough to be safe for workers?
4. Do you get a complete cleaning job . . . *or does condensation stop before parts are thoroughly clean?*
5. Does your present solvent adequately meet fire safety requirements?
6. Do you have minimum loss of solvent due to vapor dragout?
7. Is your solvent giving you the best possible cleaning job at high production rates?

WITH **PHILLSOLV** YOU GET ALL THESE ADVANTAGES

PHILLSOLV has everything you want for a faster, more efficient cleaning operation. If your present solvent can't meet the test, it will pay you to check into PHILLSOLV. Or if you're contemplating a degreasing operation, PHILLSOLV is the solvent to use. Check with your Phillips man today!

A COMPLETE LINE OF ENGINEERED VAPOR DEGREASERS AND POWER WASHERS

Phillips *MANUFACTURING COMPANY*
3463 W. TOUHY AVENUE, CHICAGO 45, ILLINOIS
"Distributed in Canada by Williams Tool Corporation of Canada, Ltd. under license".

▲ For more details circle NED-486 J5 on enclosed inquiry slip ▲

A Full Line Of . . .
SHEET METAL FORMING PRESS BRAKES
of welded steel construction

ACCURATE — DEPENDABLE — ECONOMICAL

- Standard Presses with NEW Features
- Special Presses to meet your requirements
- Special Machinery and Tooling of all types, designed and manufactured to fit your production problems.

Send for NEW catalog illustrating newest models of Press Brakes and including Standard 90 Carbon Forged Steel Press Brake Dies.

Visit us at the METAL SHOW Booth No. 164-O

SEMCO Series No. 55-1012

SERVICE MACHINE CO., INC.
ESTABLISHED 1919
202 Miller St., Elizabeth 4, N. J.

▲ For more details circle NED-487 J5 on enclosed inquiry slip ▲

"Boy! Are these new finishing hints a help!"

ONLY when we received this new Brightboy catalog at our plant did we realize that there could be such a wider concept of finishing—so many time-saving abrasive applications."

Learn how Brightboy's unique action results from abrasive and rubber working together. Learn about the special rubber binders matched with various-grain abrasives for the just-right requirements of your work. Learn how you can burr, clean, finish, polish, in one operation . . . often *save up to 50% in finishing time!*

ASK YOUR DEALER FOR THIS CATALOG. If he cannot supply you, write us. Send us specifications on jobs when you have burring, finishing, cleaning and polishing problems or on which you would like to cut time costs.

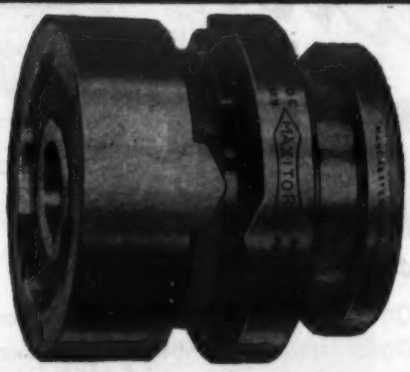
BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th St., Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

▲ For more details circle NED-488 J5 on enclosed inquiry slip ▲

MAXITORQ
OVERLOAD RELEASE CLUTCH
Protects High-Speed Machinery



Automatic overload release feature eliminates costly shutdowns by protecting machinery and products from damage due to accidental overloading of mechanism. Specifically recommended for applications where nature of overload may be a heavy shock, or suddenly-applied load substantially greater than normal driving load. Simple finger-tip adjustment. Six capacities, ¼ to 5 h.p. at 100 r.p.m. Send for bulletin.

THE CARLYLE JOHNSON MACHINE COMPANY
1CJ88 DEPT. NE-9 MANCHESTER, CONNECTICUT

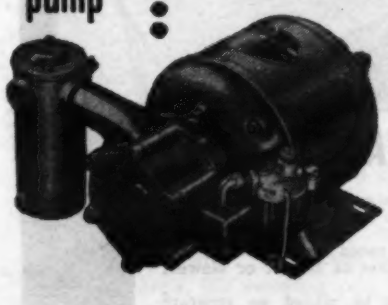
▲ For more details circle NED-489 J5 on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps Oil-less models also available.

824

NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES
1350 WILLOW AVENUE, HOBOKEN, N. J.

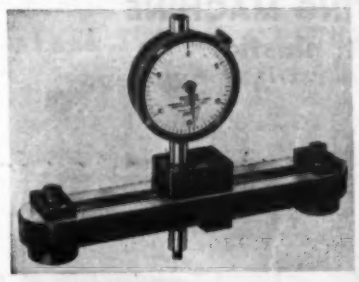
▲ For more details circle NED-490 J5 on enclosed inquiry slip ▲

VARIABLE SPEED DRIVES
utilize any foot-mounted motor

Many working parts of R. C. variable speed drives are standardized for ease of application and flexibility of use. Any foot-mounted motor with old or new NEMA frame can be used. Multiple springs on the pulley disks maintain proper belt tension. Units are available up to 15 hp ratings with up to 9 to 1 speed variation. Made by **R. C. Anderson Co.**, Dept. A60, Route No. 2, Madison, Wis.

▲ For more details circle NED-491 J5 on enclosed inquiry slip ▲

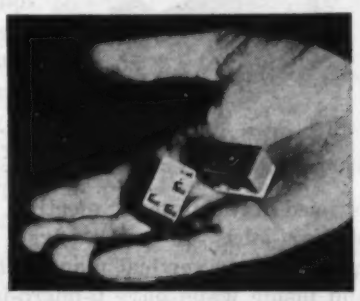
INDICATING DEPTH GAGES
adjustable for variety of jobs



Depth of slots, holes, recesses, grooves and keyways can be gaged by two adjustable dial indicator depth gages. Model 75 P-10 will check depths from 0 to 1 in., while model 75 P-11 has a 1 to 2-in. range. Specially shaped contact points and longer contacts are available. Cushioned movement dial indicator is easily adjustable vertically within the gage's capacity. Horizontally adjustable rest pads can be adjusted from 2¼ to 6 in. center to center. Dial indicator can also be adjusted horizontally anywhere between the rest pads. Made by **Federal Products Corp.**, 1118NR1 Eddy St., Providence 1, R. I.

▲ For more details circle NED-492 J5 on enclosed inquiry slip ▲

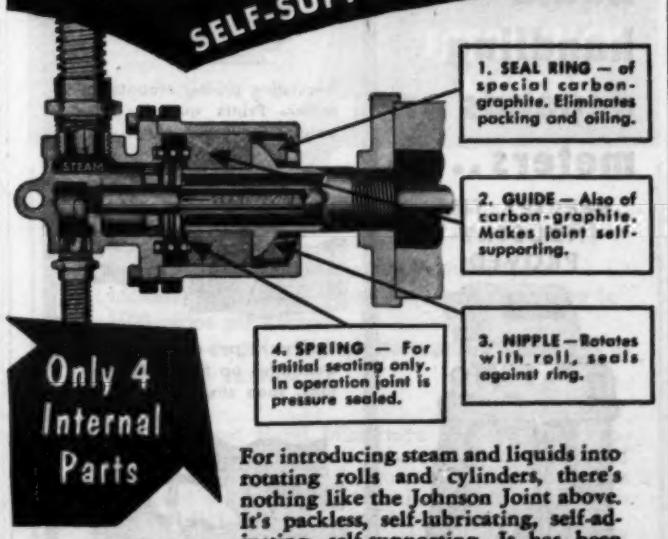
PRECISION SNAP SWITCH
resistant to shock and vibration



Unique sine curved switching element in K series precision Klixon snap switches accounts for its excellent performance under conditions of shock and vibration. It is sensitive acting and withstands 0 to 500 cycles at 10 G while continuously loaded to within 0.0002-in. of the actuating point. Movement differential as well as operating and release forces can be adjusted. Rating is 10 amp at 115 v ac or 30 v dc, resistive. Made by **Metals & Controls Corp.**, Spencer Thermostat Div., 1500 Forest St., Attleboro, Mass.

▲ For more details circle NED-493 J5 on enclosed inquiry slip ▲

JOHNSON Rotary Pressure JOINT
SELF-SUPPORTING TYPE



Only 4 Internal Parts

For introducing steam and liquids into rotating rolls and cylinders, there's nothing like the Johnson Joint above. It's packless, self-lubricating, self-adjusting, self-supporting. It has been adopted by dozens of machinery makers, and is finding new uses every day.

Type SB shown handles both steam and condensate through same head; also available for through flow service, and in sizes and styles for all operating conditions. *Write for literature.*

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-494 J5 on enclosed inquiry slip ▲

KODAK SIGNET 35 CAMERA—the ideal 35mm. camera for most photographic needs.

Easy-to-use camera for hard-working pictures

You'll find it easier to train . . . to demonstrate . . . to illustrate technical talks . . . and do countless other important jobs with 35mm. slides and prints. Job setups, breakage claims, safety hazards, research results, maintenance data—all can be photographed for study, circulation, and reference. And with a camera small enough to slip into your pocket for use as you walk through the plant.

The Kodak Signet 35 Camera has all the advanced features you need for taking quality industrial photographs. Yet it's as compact and easy to operate as your family snapshot camera. A coupled rangefinder takes the guesswork out of focusing—three simple settings with handy finger-tip controls make accurate operation a snap. Sensibly priced at $87.50, including Fed. Tax.*

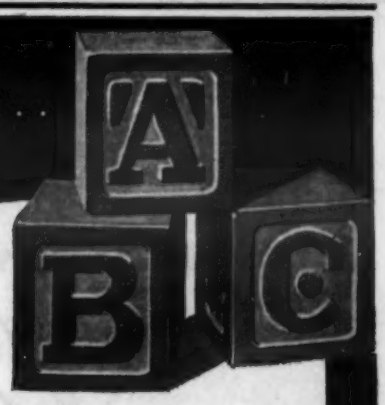
WRITE FOR FREE BOOKLET on Kodak Signet 35 Camera.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

**Price quoted is subject to change without notice.*

▲ For more details circle NED-495 J5 on enclosed inquiry slip ▲

as basic as . . .



Now you can buy CUSTOMIZED *conveyors in pre-fabricated* STANDARD *sections*

Sections can be assembled to form virtually any type of hinged-steel belt conveyor for handling stampings, formed metal parts, forgings, automotive scrap, chips and turnings and many other miscellaneous products.

Straight sections . . . concave or convex curved sections . . . take-up charge sections and discharge-end sections can be furnished to meet specific requirements of belt width as well as load bearing and volume capacities.

Conveyors can be lengthened, shortened or modified in almost any way at minimum downtime and cost.

MAY-FRAN . . . a name long recognized in the materials handling field . . . is first again with *standardized* components for your *customized* installation.

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Road • Cleveland 12, Ohio

▲ For more details circle NED-496 J5 on enclosed inquiry slip ▲

NEED LOCK WASHERS?

There's an American Spring Lock Washer and Flat Washer for Every Requirement—Galvanized, Cadmium, Zinc, Parkerized and Other Finishes.

Shown are Antilink, Kantlink, Antilink Positive, Highcollar, Rib, Double Coil and HiTesT Lock Washers which are available from stock in a complete range of sizes.

We can also supply your needs in Quality FLAT WASHERS of brass, steel, copper, stainless, aluminum, Monel or lead. They're clean, concentric, flat and burr-free!

We are prepared to meet your specifications for small PRECISION STAMPINGS. You'll be amazed at the speed and low cost. Any required finish can be supplied.

AMERICAN QUALITY IMPROVES YOUR PRODUCT!
Half Century of Uninterrupted Service.

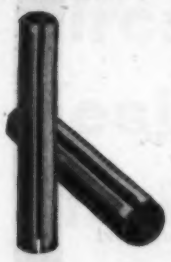
Write for complete information and literature.

AMERICAN NUT & BOLT FASTENER CO.
Doerr Street, Pittsburgh 33, Pa.

▲ For more details circle NED-497 J5 on enclosed inquiry slip ▲

Just drill and drive

SEL-LOK SPRING PINS



Drill a hole. Drive a SEL-LOK. These slotted tubular pins lock by spring action. They eliminate costly tapping, reaming, peening or milling operations. They eliminate the losses associated with close tolerances. A full range of diameters and lengths from 1/16"x3/16" to 1/2"x4 1/2" is stocked by industrial distributors. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SEL-LOK SPRING PIN DIVISION SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-498 J5 on enclosed inquiry slip ▲

How to reduce materials-handling costs!

Did you know you can get Cargotainers® "Duty-Designed" for your particular products? Cargotainers are now working for some of America's largest manufacturers handling everything from auto parts, thread, smoked ham, plastic, electrical equipment—yes, even to the U. S. mail. Cargotainers pay for themselves quickly because they reduce damage to merchandise and equipment, double storage space, speed production, save labor.

A new 24-page illustrated manual has just been published. Regardless of the type or kind of products you make, you should have a copy. It's yours for the asking. **Pittsburgh Steel Products Company, 1407 Grant Building, Pittsburgh 30, Pennsylvania.**

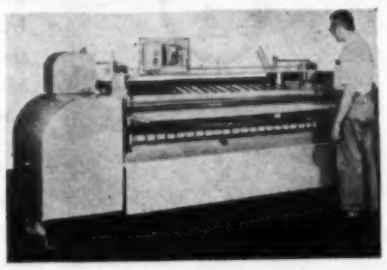
▲ For more details circle NED-499 J5 on enclosed inquiry slip ▲

INDELIBLE MARKING PEN
ink offered in several colors

Felt point mechanism on this indelible marking pen insures an even flow for clear marking without loss of ink. It makes narrow or broad lines and instantly dries on such surfaces as wax, grease, glass, metal, plastic and frost covered packages. It can be used for production line identification and coding, shipping room marking and sign making. Black, red, blue, yellow, white and green inks are offered. Sample will be mailed for $1. Available from **W. J. Ruscoe Co.,** 485 Kenmore Blvd., Akron 1, O.

▲ For more details circle NED-500 J5 on enclosed inquiry slip ▲

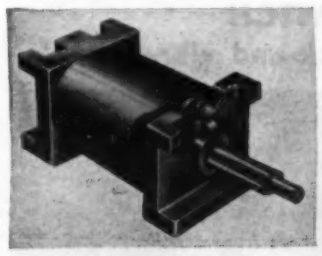
UNIVERSAL SPLITTING MACHINE
for rubber, felt, plastic



Any desired thickness of foam or sponge rubber, felt, insulation and similar soft materials can be cut by this improved universal splitting machine. Strips can be produced economically from sheet or roll materials. Machine incorporates automatic winding. Made by **Case-Maul Mfg. Co.,** 29 Harker St., Mansfield, O.

▲ For more details circle NED-501 J5 on enclosed inquiry slip ▲

POWER CYLINDER
has nonrotating piston rod



Elliptical design of the hardened and ground piston rod of this cylinder prevents rotation and eliminates need for external guide bars or ways. Designed with spring return, this single-acting push type cylinder is used for clamping, ejecting, staking, locating and similar jobs. It can be flush or foot mounted in a horizontal or vertical plane. It is cast of Meehanite, and inside walls have 6-micro-inch finish. Walls and bushings are hard chrome plated, and guide bushings are oil-impregnated porous bronze. Six sizes range from 5 to 8 in. long and from 3 to 5 3/8 in. high and wide. All are available mounted on 1/4, 1/2 and 3/4-ton arbor presses. Made by **Alkon Products Corp.,** 202 Central Ave., Hawthorne, N. J.

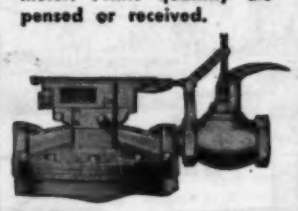
▲ For more details circle NED-502 J5 on enclosed inquiry slip ▲

Automated liquid handling depends on meters...

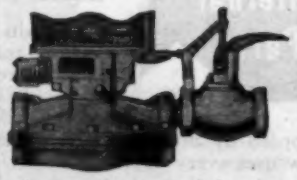
SPECIFY THE INDUSTRY-PROVED

BOWSER XACTO

Recording printer mounts on meter. Prints quantity dispensed or received.



Delivers predetermined quantities up to 10,000 gallons, then shuts off.



A repeating control for delivery of predetermined quantities. Automatic. With or less recording printer.

BOWSER, INC., FORT WAYNE, IND.
1381 E. CREIGHTON AVE.

▲ For more details circle NED-503 J5 on enclosed inquiry slip ▲

CONSOLIDATE HANDLING and PRODUCTION WITH A METZGAR APRON CONVEYOR

BELT or LIVE ROLLER

Any Metzgar Horizontal Belt or Horizontal Live Roller Conveyor can be furnished with aprons attached to form a continuous bench-type working area — full length or in suitable work station lengths. Standard widths 9" and 12" from edge of belt. Other widths available.

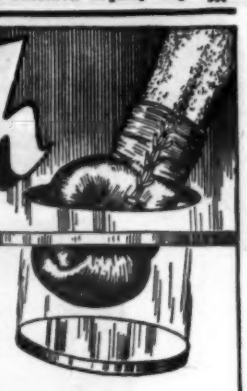
MANY APPLICATIONS — Ask our engineers to show you how Apron Conveyors can serve you best. Explain your requirements.

Continuous Flow through all successive work stations
- assembly —
- inspection —
- packaging — and
- shipping

METZGAR CONVEYOR CO.
416 Douglas St., N.W.
MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES
GRAND RAPIDS 4, MICH.

▲ For more details circle NED-504 J5 on enclosed inquiry slip ▲

Punch with a PACIFIC



Mathews Conveyor Co. *says -*

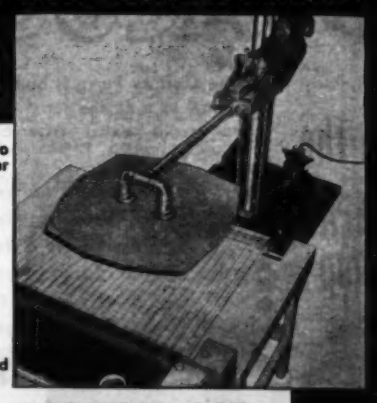
"Our 300 ton Pacific Hydraulic Press Brake has been in operation for three years. We like it for its flexibility and because it has been trouble free. As an example, we gang-punch up to forty 7/16" hex-holes in 3/16" channel – and also a 1 1/8" hex-hole in 1" steel plate. We recommend the "PACIFIC" highly to other shops."

PACIFIC INDUSTRIAL MFG. CO.
848 49TH AVENUE • OAKLAND, CALIF.

▲ For more details circle NED-505 J5 on enclosed inquiry slip ▲

PRODUCTION AND LABOR COSTS SUBSTANTIALLY REDUCED WITH

UNION



Lifts any size sheet up to 200 lbs. wt. per vacuum cup.

Comprehensive data mailed promptly on request.

AUTOMATIC VACUUM LIFT

- Fully automatic—eliminates manual factor.
- Contains its own vacuum plant . . . shipped completely assembled.
- Equipped with variable speed mechanism.
- Can be timed to movement of fastest or slowest machine in the line.
- Push-button control can be placed on separate unit in any position convenient to operator.
- May be designed with one or more arms—with single or multiple cups as required.
- Will pick up from pallet or conveyor at any level from floor to any required height.
- Adjustable through 180° turn.
- Can be set to lay sheet in exact position in any repetitive operation.
- Will handle any type sheet metal or other non-porous material.

UNION Serves Over 2,500 Satisfied Customers
UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U.S.A.
USERS SAY UNION CUTS COSTS—SPEEDS PRODUCTION

▲ For more details circle NED-506 J5 on enclosed inquiry slip ▲

Bellows New 2 for 1 WORK FEEDER

A high-speed, light duty, 2-station unit at low, low cost. Load and unload at one station while work is done at the second station. 1¼" bore remote-controlled Bellows Air Motor powers the 21" table top through full 8" traverse. Available either with Bellows Manual or low voltage Electroaire Valve complete with remote mounting bracket and accessories, or less control valve and accessories.

SEND FOR BULLETIN WF-8 ADDRESS DEPT. NED955

The Bellows Co.
AKRON 9, OHIO
1059 A

▲ For more details circle **NED-507 J5** on enclosed inquiry slip ▲

Cordomatic

AUTOMATICALLY CONTROLLED

DROP LIGHT REELS

13.95
20' Length
30' and 40' Lengths
Slightly Higher Prices

A rugged and dependable piece of equipment that gives you light where you want it . . . when you want it.

★ Crack-proof phenolic pistol-grip handle includes the time proven LEVOLIER toggle-action switch and socket.

★ New type heavy duty, all steel, all chrome reflector with swing-open guard.

★ Heavy gauge steel casing . . . smartly styled with a strikingly new textured finish . . . grease and oil resistant and set off by gleaming chrome trim.

★ Underwriters' approved SJ Neoprene cord features a kink proof, moulded-into-core jacket construction . . . oil and water resistant.

★ Fool-proof gravity action locking mechanism has nothing to break or jam.

★ The UNDERWRITERS' LABORATORIES INC. seal on CORDOMATIC DROP LIGHT REELS is your assurance of safety and dependability.

Cordomatic DIVISION OF THE VACUUM CLEANER CORP. OF AMERICA
1724 INDIANA AVE., PHILA. 32, PENNA.

▲ For more details circle **NED-508 J5** on enclosed inquiry slip ▲

VERSATILE PRECISION GRINDING!

Or a combination of both . . . or specials for single purpose application

Constant speed motor delivers consistent spindle speed under any load within rated capacity. External and internal grinding heads are interchangeable . . . internal spindles reversible for either left or right precision grinding . . . direction of rotation changed to suit. Large, flat mounting pad (with ample bolt slots) adds to grinder's versatility . . . can be mounted to nearly any other production machine for a wide range of accurate work, large or small. For adaptation to special, single purpose applications, write for details. Successfully used for grinding both the common and unusual materials.

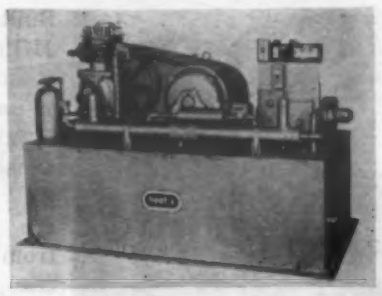
Write for Catalog No. 55 MD

The Cincinnati

The CINCINNATI ELECTRICAL TOOL COMPANY
CINCINNATI 8, OHIO

▲ For more details circle **NED-509 J5** on enclosed inquiry slip ▲

PACKAGED COOLING UNIT for water and low viscosity liquids



Delivered completely wired, charged with Freon-12 and ready for plug-in operation, this packaged cooling unit is designed for cooling process water and low viscosity liquids. Individual cast aluminum coolers withstand freezing damage and have a high hold-over capacity. Units are available with stainless steel circuits for subcooling Freons, cooling kerosene, light oils or slightly corrosive footstuffs. Capacities range from ⅓ to 10 hp. Made by **Heat-X, Inc.**, 10 N. Main St., Brewster, N. Y.

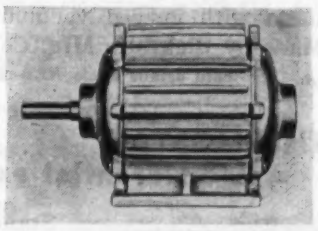
▲ For more details circle **NED-510 J5** on enclosed inquiry slip ▲

STEEL SWIVEL CASTER has four-position swivel lock

Positive locking of the caster fork in any of four positions is possible with the spring-loaded pin lock incorporated in series 23 Lockweld steel, double ball race, swivel casters. Lock is released easily with simple pull on finger ring. Casters are available in 4, 5, 6 and 8-in. sizes with vulcanized rubber-tired, semisteel or molded plastic wheels, and with solid rubber wheels through the 6-in. sizes. Made by **Fairbanks Co.**, Dept. 43, 395 Lafayette St., New York 3, N. Y.

▲ For more details circle **NED-511 J5** on enclosed inquiry slip ▲

FAN DUTY MOTORS industrial units rated ¾ to 20 hp



Double-width prelubricated sealed ball bearings, integrally cast fins for heat dissipation and windings with thick Formvar insulation are features of type EFD totally-enclosed fan duty motors. Made in ratings of ¾ to 20 hp, they are available with optional connection boxes to fit any air-over-motor application. Type EXFD explosion-proof motor is usable where volatile gases and explosive dusts are prevalent. Applications include industrial fans, blowers, man coolers, cooling towers, air conditioners and unit heaters. Made by **Lima Electric Motor Co.**, 78 Findlay Rd., Lima, O.

▲ For more details circle **NED-512 J5** on enclosed inquiry slip ▲

FRAHM® FREQUENCY METERS

- . . . . in Switchboard, Miniature and Portable types
- . . . . indicate alternating current frequency from 15 up to 1500 cycles per second
- . . . . applicable to pulsating or interrupted D-C as well as A-C supply circuits

Frahm Resonant Reed Miniature Sealed Type Frequency Meters are hermetically sealed to withstand excessive humidity, dust, fungus attack, moisture (as aboard ship) and other destructive atmospheric conditions. Available in 2½" and 3½" sizes.

Frahm Frequency Meters can be specially designed to your specifications for range, methods of activating, scale graduations, etc. We invite your correspondence.

WRITE FOR BULLETIN 32-D.

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle **NED-513 J5** on enclosed inquiry slip ▲

Kinnear Rolling Doors

- Door rises straight upward—completely out of the way.
- Clears the entire opening, stays out of reach of damage.
- All ceiling space is clear—for hoists, conveyors, ducts, etc.
- Steel jambs anchor curtain against wind or storm damage.
- Rugged, all-metal resistance to fire, storm or intrusion.
- All floor and wall space around door always fully usable.
- Built to fit any opening—for manual or motor operation.

The KINNEAR Mfg. Co.
FACTORIES:
3017 Fields Ave., Columbus, Ohio
1742 Yosemite Avenue, San Francisco 24, Calif.
Offices and Agents in All Principal Cities

Write for the new Kinnear catalog.

SAVING WAYS in DOORWAYS

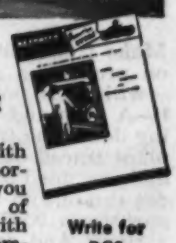
KINNEAR ROLLING DOORS

▲ For more details circle **NED-514 J5** on enclosed inquiry slip ▲

Despatch BURN-OFF OVEN

Saves 52 hours in ONE operation!

Typical process load of stators at Am. Electrical & Maintenance Company, Philadelphia. According to this company, "Stator frames, due to complete burning, give the appearance of new motors and result in compliments from our customers."



FOR ALL SHOPS THAT MANUFACTURE OR REPAIR MOTORS

● **YEARS OF RESEARCH** and coordination with motor manufacturers have resulted in this thoroughly proven Burn-Off Oven design. Here you have faster motor stripping at a minimum of expense. Extra-heavy construction combines with complete, controlled heat distribution for economical performance every day. RCS-5 Oven 24" x 36" x 48"; RCS-6 Oven 48" x 60" x 66". Gas fired.

Write for RCS Bulletin

DESPATCH Established OVEN CO. in 1907

DESPATCH OVEN COMPANY
325 Despatch Bldg.
Minneapolis 14, Minn.

▲ For more details circle **NED-515 J5** on enclosed inquiry slip ▲

CUT THREADING COSTS NOW!

FREE BOOKLET TELLS HOW . . .

Send today for this fully illustrated booklet on the Oster "Wilco" Pipe Machines.

It contains design features, specifications, and time studies which show how you can reduce threading costs with one of these versatile, heavy-duty maintenance threading machines.

THE **OSTER** MANUFACTURING CO.
Main Office and Factory:
2066 E. 61 St., Cleveland 3, Ohio
New York Factory Branch Sales and Service, 25-36 Jackson Ave., Long Island City 1, N. Y.

BUILDERS OF COST-REDUCING THREADING EQUIPMENT SINCE 1893

▲ For more details circle **NED-516 J5** on enclosed inquiry slip ▲

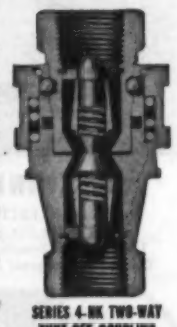
HANSEN

Quick-Connective

TWO-WAY SHUT-OFF COUPLINGS

Female pipe thread connections from ⅛" to 1"

Both ends of line are positively sealed when you disconnect a Hansen Series HK Two-Way Shut-Off Coupling. To connect, just pull back sleeve and push Plug into Socket. To disconnect, merely pull back sleeve. No tools required. Identical valves in Socket and Plug permit free flow of gas or liquid when Coupling is connected—practically eliminate spilling of liquid or escape of gas when disconnected. Available in brass or steel.



SERIES 4-HK TWO-WAY SHUT-OFF COUPLING

Also Straight-Through and One-Way Shut-Off Couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY

1201 WEST 130th STREET • CLEVELAND 11, OHIO

▲ For more details circle NED-517 J5 on enclosed inquiry slip ▲

IRD cuts maintenance costs, speeds troubleshooting

Make troubleshooting and maintenance fast and certain on production and plant equipment with rotating parts—with IRD portable Vibration Analyzers. For instance: **1**—A Portland cement plant cut coal-mill fan rebalancing downtime from hours to 2 to 5 minutes. **2**—A bronze plant traced out tramp vibration spoiling work of boring mill, regained 9 micro-inch finish. **3**—A big machine shop cut run-out on a lathe machining titanium for jet engine parts from .0007" to .0003".

How? And can it be done on your equipment? Write for Bulletin G-2.

International Research & Development Corp.
Box 1707, Columbus 16, Ohio

IRD *balance—the final dimension of precision*

▲ For more details circle NED-518 J5 on enclosed inquiry slip ▲

• WIDELY USED THROUGHOUT THESE INDUSTRIES •

CUT COSTS ON EVERY CLEANING JOB WITH—

COLD STEAM

Precise control of air and water blasts heavy dirt or rinses sheets and small parts with a heavy, penetrating spray

Air Craft
Automotive
Bakeries
Breweries
Cement
Ceramics
Cheese
Construction
Distilling
Electrical
Food Processing
Foundries
Jewelry
Leather
Meat Packing
Machine Shops
Marine

HYDRO-AIR

PRESSURE WASHER

- NO BACK SPLASH!
- BLASTS STUBBORN DIRT!
- HARMLESS TO FINEST FINISH!

$9.95

HYDRO-AIR Pressure Washer connects to regular air and hot or cold water supply. Composition rubber sleeve which fits over handle protects user's hand when hot water is used.

Inquiries invited from industrial cleaning compounders interested in resale.

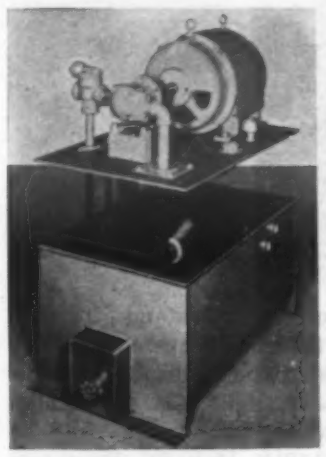
Mining Equipment
Oil & Refinery
Optical
Paper
Pharmaceutical
Public Utilities
Repair Services
Railroad
Rubber
Ship Building
Stone Polishing
Textile
Tobacco
Transportation

D & M PRODUCTS, INC.

26 N. Raymond Ave. Pasadena 1 Calif.

▲ For more details circle NED-519 J5 on enclosed inquiry slip ▲

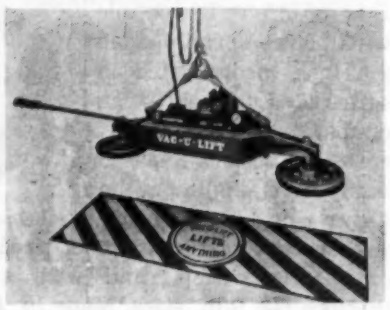
HYDRAULIC POWER UNITS
five sizes from ¾ to 20 hp



Built to conform with JIC specifications, line of standard hydraulic power units utilizes stock hydraulic reservoirs with capacities from 20 to 100 gal. Five power units are made in capacities from ¾ to 20 hp. Electric motor, pump and necessary valves are mounted on the TK tanks which are equipped with the basic mounted accessories such as fittings, pipes and filler cap. The PT power units are suitable for various industrial applications. Made by **Rosaen Co.**, 24601 Harper Ave., St. Clair Shores, Mich.

▲ For more details circle NED-520 J5 on enclosed inquiry slip ▲

VACUUM LIFTING DEVICE
facilitates handling sheet materials



Steel plates, large castings, building board and similar materials can be handled easily with this improved Vac-U-Lift for use with cranes and hoists. Large vacuum cups grip the materials firmly, lifting them securely and safely to their destination. Units will lift any object with a nonporous surface that is large enough to allow the vacuum pads to attach themselves. Lifting power is governed by the diameter of the lifting pad. Models are available to handle loads weighing several tons. Small hand models and units with curved vacuum pads are also available. Made by **Blakeslee Mfg. Co.**, Yards Rd., Salem, Ill.

▲ For more details circle NED-521 J5 on enclosed inquiry slip ▲

THERMOSTAT
is differential expansion type

Standard model A-1S-160 differential expansion thermostat has a range of 35 to 600° F and will withstand excessive high or low temperatures without damage. It is capable of controlling temperatures to within ±½° F in liquids and ±1° F in air. Stainless steel sensing element measures ¼-in. OD by 6 in. long. Differential expansion of a rod within a tube actuates a snap-action switch rated at 15 amp, 125-250 v ac. Switches with other ratings or with a manual reset button are available and interchangeable. Unit is designed for local mounting and can be furnished with flange or threaded fittings. Made by **Burling Instrument Co.**, 16 River Rd., Chatham, N. J.

▲ For more details circle NED-522 J5 on enclosed inquiry slip ▲

DRUM HANDLING STACKER
attachment speeds materials handling

Attached to hand propelled fork lift trucks and portable stackers having removable forks or platforms, Liftomatic Junior facilitates handling of drums. Readily installed attachment will accommodate open or closed fiber or steel drums of any diameter or height. Capacity is up to 1000 lb. Pickup and release are actuated by the raising or lowering of the truck carriage. Made by **Marvel Industries, Inc.**, 2242 Cleveland St., Evanston, Ill.

▲ For more details circle NED-523 J5 on enclosed inquiry slip ▲

FOR WATER BASED AND MINERAL OIL COOLANTS USED IN

NEW HOUDAILLE PRE-COAT F

—the only filter of it

COMPLETELY SELF-CLEA

● An exclusive backwashing feature built into the Houdaille Pre-Coat Filter *eliminates manual cleaning entirely!* During the filtering period, constant pressure forces clean coolant upward into a specially designed dome. By simply stopping pump, this flow is reversed, sending clean coolant from dome down through tubular screens. Every trace of contamination collected on screen surfaces is flushed away in seconds.

Designed for High Flow, High Efficiency

Precision metal-working operations such as grinding, honing and lapping require a constant supply of clean coolant. The Houdaille Pre-Coat Filter provides the fast, th prou sary to meet both proc demands. One or more central system tank t coolant.

Features 199 Tubular

Tubular screens are sus a circular steel plate. metal, they provide filt of flat screens while red

Takes Contamination

Screens are pre-coated which removes the most out removing additives. one pre-coat is needed

EQUIPMENT BULLETIN No. 701 gives complete operating data on the Houdaille Pre-Coat F

405 Wabash Avenue, Lebanon, Indiana | A SUBSIDIARY OF HOUDAILLE-HER

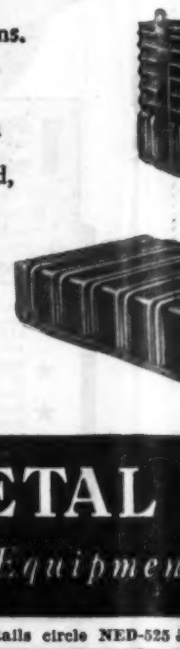
▲ For more details circle NED-524 J

Get the jump on rising han Union Metal material hand

HERE'S a perfect answer to your rising operating costs and narrowing profit margins. It's Union Metal *engineered* material handling equipment. Equipment that boasts a long and unequaled record of moving materials quickly, safely in unit loads, while decreasing production line delays and required storage area. You'll be time and dollars ahead with Union Metal rugged, durable skid platforms, boxes and pallets.

Write today for illustrated literature on industry's broadest line of Material Handling Equipment. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

From the smallest shop boxes to huge production positioning hoppers.



UNION METAL

Material Handling Equipmen

▲ For more details circle NED-525

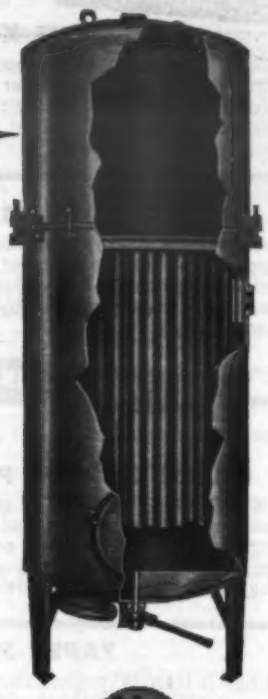
It's the *installed* bearing that pays off (—or That's where the sound judgment and knowledge of be of an *Authorized* SKF Distributor comes in. You can be on the savings from increased bearing service life and operating performance that come from putting... *the right bearing in the right place.*

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA., *manufacturers of* SKF *and* HESS-BRIGHT® *bearings.*

▲ For more details circle NED-526

S USED IN CENTRAL SYSTEMS

COAT FILTER
ter of its kind that's
CLEANING



the fast, through micronic filtration neces-
eet both production and quality control
. One or more filters are mounted on a
ystem tank to handle any volume of

199 Tubular Filter Screens
screens are suspended beneath dome on
r steel plate. Made of fine mesh Monel
ey provide filtering surface equal to that
reens while reducing tank diameter 30%.

ontamination Out, Leaves Additives In
are pre-coated with diatomaceous earth,
moves the most minute solid particles with-
ving additives. In normal operation, only
coat is needed daily.

udaille Pre-Coat Filter. Write for your copy today.

OUDAILLE-HERSHEY CORP.

HOUDAILLE-HERSHEY OF INDIANA, INC.
FILTRATION DIVISION

rcle NED-524 J5 on enclosed inquiry slip ▲

g handling costs with
handling equipment

TAL
uipment

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off (—or doesn't).
ledge of bearings
You can bank
ce life and peak
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SKF®
BALL AND ROLLER BEARINGS

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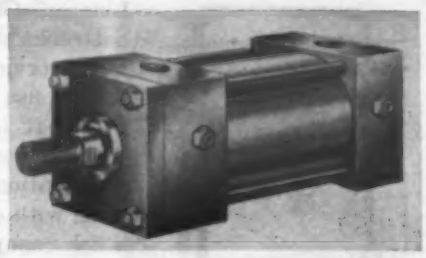
AIR CYLINDERS
square end design saves space



Available in 11 bore sizes from 1½ to 14 in. and with 21 types of mountings, line of air cylinders has square ends for space - saving applications. They comply with JIC standards and feature corrosionproof brass tubes, removable bronze cartridge containing the wiper and rod packing, and cold rolled steel end plates. Pistons and tie rods are secured with lock nuts. On cushioned models, cushions float on an O-ring for accurate self-alignment. Either single or double rod ends can be supplied. Made by **S-P Mfg. Corp.**, Dept. N, 12415 Euclid Ave., Cleveland 6, O.

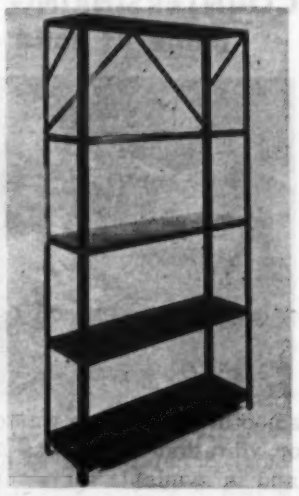
▲ For more details circle NED-527 J5 on enclosed inquiry slip ▲

MULTIPURPOSE TORCH KIT
is portable, propane, hand unit

Usable for practically any job that requires heat and flame, Bernz-O-Matic propane - fueled torch kit consists of disposable fuel cylinder, needle - valve adapters, pencil flame burner, utility burner head with a detachable flame spreader and a soldering tip for use on the pencil flame burner. It is especially suited for such maintenance jobs as pipe and tube sweating, wire splicing, heavy duty soldering and pipe thawing. Complete kit lists for $8.88. Made by **Otto Bernz Co.**, Dept. N-1, 280 Lyell Ave., Rochester 6, N. Y.

▲ For more details circle NED-528 J5 on enclosed inquiry slip ▲

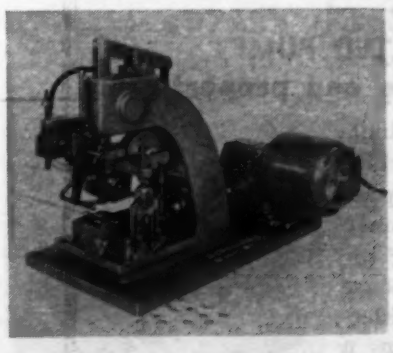
STEEL SHELVING UNITS
hold up to 300 lb per shelf



Stocking and inventory control as well as safe convenient storage for tools, parts and supplies are provided by these Shelv-It-All units. Each shelf holds 300 lb and is adjustable in 1-in. increments of level. Units measure 6 ft high, 3 ft wide and 1 ft deep. Constructed of heavy gage steel, shelving units are finished in black baked enamel. List price is $9.95, with extra shelves available in lots of six at $1.49 each. Made by **S. A. Hirsh Mfg. Co.**, Dept. NED, 8051 Central Park Ave., Skokie, Ill.

▲ For more details circle NED-529 J5 on enclosed inquiry slip ▲

TUBE MARKING MACHINE
has automatic feed and cut-off



Cable, plastic, fiber, fabric or paper strip and tubing can be marked with the model ETMA machine. A numbering machine and an automatic cut-off are utilized in a motor driven hot stamping machine. It can also produce a wide range of numbered or code-marked tags, strips, bands or sleeves of various sizes and lengths. While the illustration shows the standard interchangeable type holder, machine can accommodate either automatic or nonautomatic numbering machines for consecutive or random numbering. Automatic tube feed is adjustable to feed lengths up to 1 in. and will handle tube up to ½-in. OD. Models are available for larger tubing and special feeds. Operation is on 115-v ac at speed of 86 pieces per minute. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle NED-530 J5 on enclosed inquiry slip ▲

Bending Sheet Metal
CHICAGO UNIVERSAL BOX and PAN
BENDING BRAKE

BENCH MODEL
BB-2

VERSATILE
ACCCURATE
STURDY

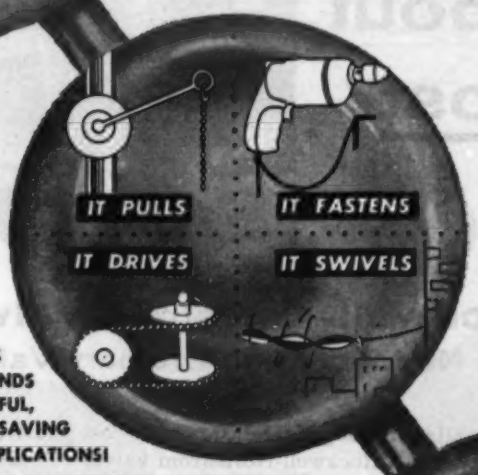
This CHICAGO hand bending brake is ideal for bending sheet metal up to 16 gauge and 24" wide. Model and experimental shops, production departments find this machine unmatched for single pieces or production runs in folding, box and pan work, and a limitless variety of straight bending operations. Very little experience is required to do accurate and fast work.

Write for full particulars
Steel Bending Brakes for over 50 Years

DREIS & KRUMP MANUFACTURING COMPANY
7436 S. Loomis Blvd., Chicago 36, Ill.
CHICAGO

▲ For more details circle NED-531 J5 on enclosed inquiry slip ▲

take advantage of
Versatile
BEAD CHAIN



IT HAS THOUSANDS OF USEFUL, COST-SAVING APPLICATIONS!

Bead Chain is available in 5 diameters from 3/32" to ⅜" with tensile strengths ranging from 18 to 200 lbs., in a variety of metals and finishes. No matter what the requirement, our engineers will be glad to assist you in solving your chain applications.

For complete information send for FREE HELPFUL CATALOG

THE BEAD CHAIN MANUFACTURING CO.
16 Mountain Grove St., Bridgeport, Conn.

▲ For more details circle NED-532 J5 on enclosed inquiry slip ▲

WINZELER
Stamped Gears

GET THIS FREE
STAMPED GEAR GUIDE!

SEND TODAY for useful 4-page folder . . a valuable guide to all that is best in the mass production and use of low-cost Stamped Gears, Tools and Assemblies. Many various types are described. Also contains technical data, tables, ideas, suggestions. Use company stationery, please!

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

▲ For more details circle NED-533 J5 on enclosed inquiry slip ▲

OFF SHELF DELIVERY!

T-J Spacemaker CYLINDERS

OIL pressure to 750 — AIR to 200 P. S. I.

Now the sensational new T-J Spacemaker sets the pace in compact cylinder design and efficient performance!

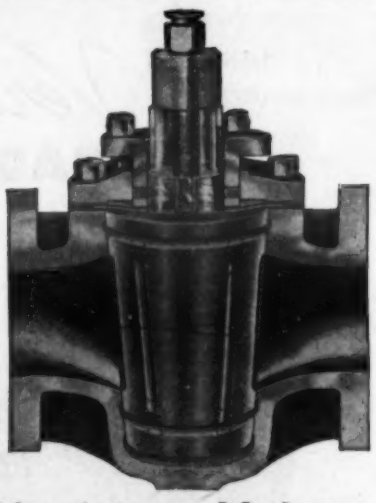
New "Self-Aligning" adjustable oil cushion means faster acceleration and better cushion than ever before . . . New T-J Super Cushion Flexible Seals for air insure positive cushion with automatic valve action for fast return stroke.

More plus features include—heavy wall, precision honed, hard chrome plated, seamless steel body . . . leakproof cylinder head to body construction . . . heavy duty, high-tensile, *hard chrome plated piston rod.* Write for bulletin SM-454-2. The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVETORS AIR AND HYDRAULIC CYLINDERS CUTTERS CLINCHORS

▲ For more details circle NED-534 J5 on enclosed inquiry slip ▲

Let's Talk About Cost



Rockwell-Nordstrom Valves
Cost No More Than Ordinary Valves!

Trouble-free dependability doesn't cost you any more with Rockwell-Nordstrom valves . . . and in the long run, they're the most economical valve you can buy at *any* price.

Pressure lubrication, which forms the famous Rockwell-Nordstrom leakproof seal, also eliminates repair-replacement cost caused by the "wear-out" friction of metal-to-metal contact in ordinary valves. And the lubricant protects the valve working surfaces against corrosive or erosive line materials while keeping the plug free for instant, smooth quarter turn operation.

The valve seat, the part that wears out the fastest in ordinary valves, is *never* exposed to the line when you use Rockwell-Nordstrom valves . . . eliminates one of the biggest valve down time problems.

Remember, these exclusive advantages are *not premium priced.* While Rockwell-Nordstrom valves cost no more than most ordinary valves that's just half the story . . . they'll outwear, outlast and outperform any other valves you've ever used.

Rockwell-Nordstrom valves are available in a full range of pressure-temperature ratings and sizes in steel, semi-steel and numerous corrosion resisting metal alloys. Send the coupon today for complete details. Rockwell Manufacturing Company, Pittsburgh 8, Pa.

Canadian Valve Licensee: Peacock Brothers Ltd.

Rockwell-Nordstrom Valves
LUBRICANT SEALED FOR POSITIVE SHUT-OFF

ROCKWELL MANUFACTURING COMPANY
Pittsburgh 8, Pennsylvania 2-J
☐ Please send me Bulletin V-215.
☐ Please send name of nearest Rockwell-Nordstrom industrial distributor.
Name____ Title____
Company____
Street____
City____ Zone____ State____

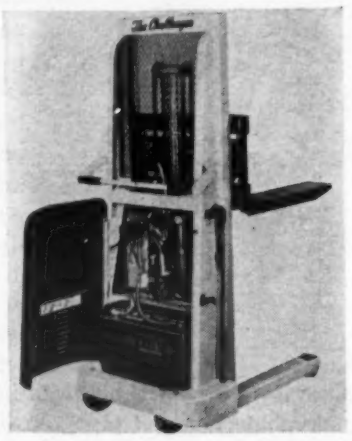
▲ For more details circle NED-535 J5 on enclosed inquiry slip ▲

COAT & HAT RACKS in 3, 4 or 5-ft lengths

Line of Checker coat and hat racks suitable for either self - service or checking-service use is made up of 3, 4 or 5-ft long racks which can be used singly or in combination. Racks are made with embossed shelves which snap into position, yet lock with firmness and rigidity. Hangers provide a hook for the checks. Plastic clips have large hot-stamped numerals for easy identification of wraps. Checkroom layout service is available without obligation. Made by **Vogel-Peterson Co.,** Dept. P-8, 1127 W. 37th St., Chicago 9, Ill.

▲ For more details circle NED-536 J5 on enclosed inquiry slip ▲

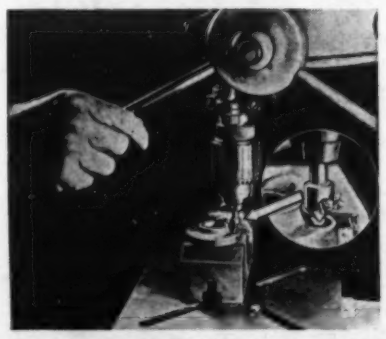
BATTERY-OPERATED LIFT handles up to 1000-lb loads



Economy-priced Challenger battery-powered hydraulic lift is capable of raising 1000-lb loads to height of 56 in. at maximum speed of 40 fpm. Additional models are offered with lift heights up to 86 in. Machine is designed for wide range of work including die handling, truck loading and unloading, stocking and warehousing, moving materials through narrow aisles and lifting heavy loads during production or assembling. List price is $387.50. Made by **Big Joe Mfg. Co.,** 908 W. Jackson Blvd., Chicago 7, Ill.

▲ For more details circle NED-537 J5 on enclosed inquiry slip ▲

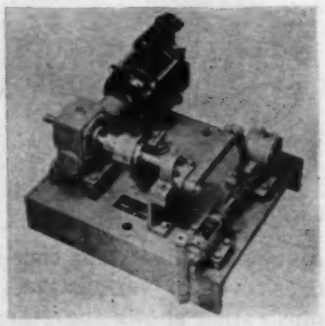
COUNTERSINKING TOOL made of solid carbide



Noncutting edge of this solid carbide countersinking tool is flattened and is higher than the cutting edge which is on a rounded dip. A round chip clearance hole is centered in the cutting edge to allow a smooth flow of chip waste. Design eliminates chatter or vibration. Tool has an 82-degree included angle and is available for screw sizes Nos. 5, 6, 8 and 10. Larger sizes from ¼ to ½-in. are available with or without a pilot to fit any diameter hole. Recommended speed is 250 to 500 rpm. Made by **Dexco Corp.,** Raymac Div., Dept. N-1, 15490 Dale Ave., Detroit 23, Mich.

▲ For more details circle NED-538 J5 on enclosed inquiry slip ▲

CLUTCH-OPERATED PUMP for metering and proportioning



Solenoid-operated single revolution clutch which operates the UMC positive displacement pump permits one stroke of the pump plunger in response to an electric signal. Electrical impulses from a mechanical flow meter, differential meter, gravimetric meter or program timer effect a feed rate to the main flow line at regularly timed intervals. Pump can be used to meter and proportion additives and odorants to fuel and natural gas lines or add boiler feed compounds. It is available in maximum capacities of from 0.10 to 20 gph per feed. Single feed is standard, but two-feed units are available. Made by **Hills-McCanna Co.,** 2455 W. Nelson St., Chicago, Ill.

▲ For more details circle NED-539 J5 on enclosed inquiry slip ▲

"Get them from Gillen"

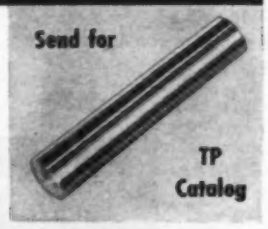
MACHINE KEYS
Standard Gib Head and Plain Taper Keys, Straight and Round End Feather Keys. Precision milled, C-1018 Steel; close tolerances; completely de-burred, ready for assembly.

MACHINE PARTS
Every shape and size; milled, drilled, tapped, countersunk, counterbored, heat-treated, surface ground, from various metals. Used by leading machinery builders. Precision made, rigid inspection.

KEYS • PARTS • PINS

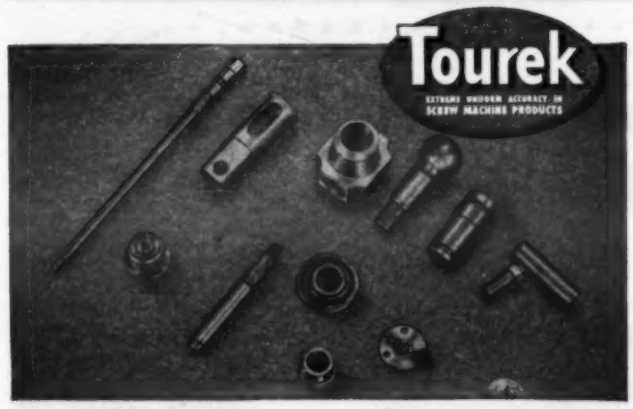
GILLEN GROOVE PINS
Just drill hole, Drive in pin. 3 grooves compress pin for tight fit. Stocked many lengths and diameters. For fast, production fastening. Eliminate threading, tapping, reaming. Various metals and finishes.

TAPER PINS
Straight to taper, ¼" per foot. Extremely accurate. Milled from bar stock; also centerless ground. Rust-resistant coating. Stocked many lengths and diameters.



John Gillen Company Manufacturers
2562 South 50th Ave., CICERO 50, ILLINOIS

▲ For more details circle NED-540 J5 on enclosed inquiry slip ▲



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Critical buyers from coast-to-coast "Turn to Tourek" consistently for all of their Screw Machine Parts. They have learned to depend upon us for a degree of accuracy that invariably cuts assembly time . . cuts costs . . improves performance.

Please ask our capable staff for help or estimates on *your* requirements. There's no obligation.

SEND FOR *illustrated 16-page Tourek Ball Joint Guide-Catalog. It's free!*

J. J. TOUREK MFG. CO.
ESTABLISHED 1920
1901 SOUTH KILBOURN AVENUE, CHICAGO 23, ILLINOIS

. . UP TO 2-5/8" DIAMETER SINGLE AND MULTIPLE SPINDLE MACHINES . .
THREADING • TAPPING • MILLING • DRILLING • GRINDING • POLISHING • PLATING • HEAT TREATING • SILVER SOLDERING

WORLD'S LARGEST MANUFACTURER OF "STANDARD" BALL JOINTS

▲ For more details circle NED-541 J5 on enclosed inquiry slip ▲

NEW insulined
fittings reduce wire pulling effort 50%

STANDARD RIGID CONDUIT

Bushing

Metallic Bushing

Chase Nipple

FLEXIBLE CONDUIT OR ARMORED CABLE

ELECTRICAL METALLIC TUBING

EMT Connectors

Because T&B's new lines of raceway fittings are self-insulated, wiring installation is much easier — wiring pulling effort reduced 50%. Insulined fittings are one-piece, comply with the code—no extra bushing required. The long insulator lines the entire fitting throat, providing complete protection against all metal surfaces. For free samples and technical data, see your T&B distributor or write direct to us.

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INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P. Q., Canada
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

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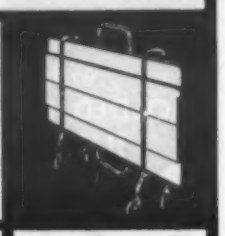
new **free** catalog answers table-seating problems



Sico tip-top table

Quick folding, easy rolling table-bench combination. Table top is 15 square ft.—yet top and attached benches store in area only 1 ft. by 6 ft. Seats 8 adults comfortably. Table top is tough mellamine plastic. Folding frame is heavy, 14 gauge structural steel, zinc lustron plated for lasting protection and beauty. New single leaf design is functional, sanitary. Durable SICO quality construction suits unit to many applications—work table, cafeteria, employee lounges, even outdoors. Folds easily and quickly with no latches or locks. Table top measures 72 by 30 in. Vertical grain, fir benches are 6 ft. by 9 in. Big 4 in. rubber casters give portability. Available in other sizes and heights. Full specifications in FREE catalog.

fast-storing

in less space

at lower cost

Just off the press

Presents an entire new concept of industrial and institutional seating that saves time and space. Describes and illustrates each table and table-bench combination in the SICO line. Write today to:

SICO manufacturing co. 6049 Pillsbury Ave. S. Minneapolis 19, Minn.

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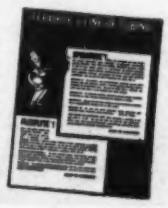
Flexible SPIRATUBE will handle these jobs better... and save you money, too!

- ✓ Materials Handling
- ✓ Ventilation
- ✓ Exhaust and Fume Removal
- ✓ Dust Removal
- ✓ Blowing
- ✓ Aircraft Applications

Spiratube®, a neoprene-coated flexible tubing, is designed to carry air, other gases, many solids and liquids at low pressure. It is available in diameters up to 30" and is extremely light in weight, easily retractable and portable.

A Spiratube system can be installed in a very short time. No costly elbows or special fittings are required, since flexible Spiratube bends easily around obstructions or corners, without loss of efficiency.



This Bulletin will show you how SPIRATUBE will reduce your production costs! Send for it today

Flexible Tubing
CORPORATION
Guilford, Connecticut • Los Angeles 64, California

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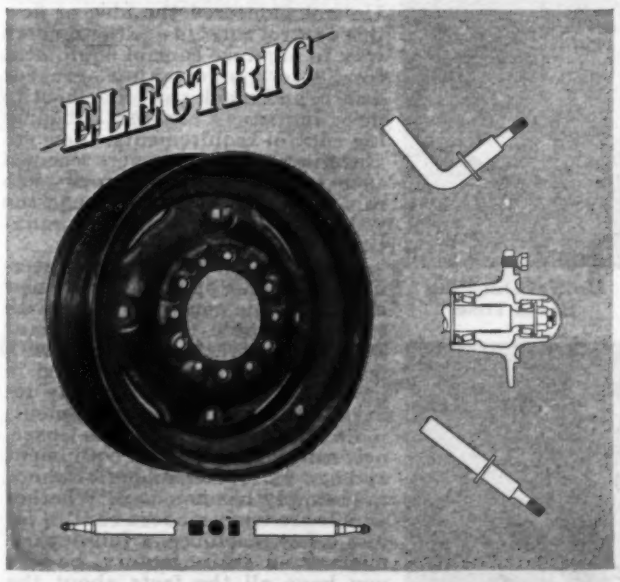

A Wheel for Every Job!

Our engineers will recommend the most efficient and economical wheel and axle assembly for your unit. We invite your inquiries.

WRITE US FOR CATALOG
ELECTRIC WHEEL CO.
2802 SPRUCE, QUINCY, ILLINOIS

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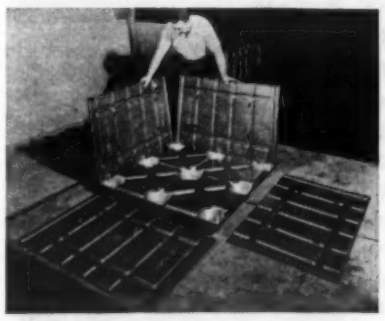
ELEVATING & DUMPING MECHANISM
for top-loading of bins, furnaces

Top loading of bins, furnaces or other receptacles can be done efficiently by this Meltevator automatic elevating and dumping mechanism, capable of handling 800 lb of any material that can be loaded in its specially designed trucks. Standard unit is 8 ft 7 in. high, requires only 30 x 30 in. floor space and has vertical lift of 4 ft. Loaded truck is wheeled into the Meltevator. Then load is raised, dumped and lowered to floor by operating two pushbuttons. Cycle can be completed in less than 30 seconds. A third safety button will stop truck at any position. Made by **Nolan Corp.**, 1213 E. Dominick St., Rome 2, N. Y.

▲ For more details circle NED-546 J5 on enclosed inquiry slip ▲

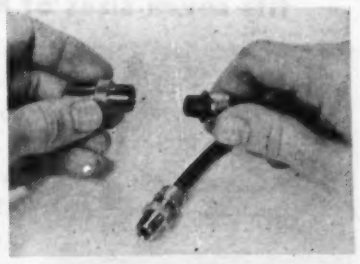
SHIPPING CONTAINER
folds compactly when not in use



Compact combination steel pallet, container sides and top comprise the Band-Box shipping container which nests for return handling and storage. Strong and durable, it is tierable and can be easily set up and knocked down in a few minutes. The cover protects contents during shipment or extended storage. All parts of a given size are interchangeable and can be replaced at moderate cost. Three standard sizes are available which weigh 85, 99.5 and 122 lb each. Other sizes can be made to individual requirements. Made by **Ackermann Mfg. Co.**, Dept. NED, Wheeling, W. Va.

▲ For more details circle NED-547 J5 on enclosed inquiry slip ▲

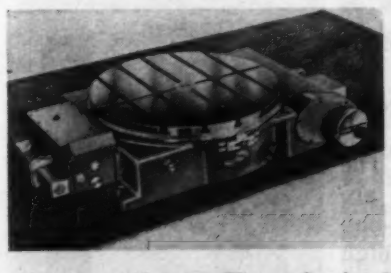
TUBE FITTING
flareless type for instrumentation



Intru-lok flareless type tube fitting for copper instrumentation lines features "in-true" tube entry and quick connection without disassembly. Wedging action of the nut causes the ferrule to "bite" into the outer tube wall surface, turning up a "shoulder" of metal to provide a leakproof, vibrationproof connection. Fitting is available in all commonly used body shapes and in sizes ranging from 4 to 16 for ¼ to 1-in. OD tubing. Sizes 4 and 6 are available with nut and insert for connection of ¼ and ⅜-in. OD plastic tubing. Made by **Parker Appliance Co.**, Tube & Hose Fitting Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

▲ For more details circle NED-548 J5 on enclosed inquiry slip ▲

OPTICAL ROTARY TABLE
can be set to 1 second of arc



Optical measuring system of this 24-in. plain optical rotary table for use with jig borers and similar equipment uses a graduated glass master disk to obtain basic 5-minute settings. These basic divisions are optically subdivided into 300 equal parts for direct settings to 1 second of arc. Readings are magnified and projected on a viewing screen. Also usable for inspecting, calibrating and other applications requiring very precise spacing or angular positioning, the table has a 360-degree adjustment of optical zero. Table has a box-type base and a reversible shell-type motor to provide power rotation. Made by **Niles-Bement-Pond Co.**, Pratt & Whitney Div., 20 Charter Oak Blvd., West Hartford 1, Conn.

▲ For more details circle NED-549 J5 on enclosed inquiry slip ▲

AIR ARM DIVISION Westinghouse **BOOSTS PLATING OUTPUT**

holds rejections to virtually zero

uses POWERS **TEMPERATURE CONTROLS**

Plating gold, silver, copper, tin, cadmium and zinc; dual anodizing; cleaning, aluminum, magnesium and steel electronic parts all are temperature controlled by Powers, in the new Baltimore plating plant of Westinghouse's Air Arm Division.

And Powers Self-Operating Temperature Controls help maintain exceptional plating quality. Rejections are virtually zero.

Your plating operation can profit from the use of Powers Temperature Controls. Contact the Powers office nearest you, or write us direct for Bulletin 330. (c26)

THE POWERS REGULATOR CO.
Skokie, Ill. • Offices in 60 Cities • See Your Phone Book

Over 60 Years of Automatic Temperature and Humidity Control

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Money Saver!

this durable
National Hand Dryer
takes the place of millions of towels

SAVES $600 PER YEAR

In the average wash-room one NATIONAL Hand Dryer saves approximately $600 per year. Pays for itself in a few months! Lasts for many years . . . also eliminates messy wash-rooms plus the expense and aggravation of paper-towel-clogged toilets.

And *our dryers dry hands DRY in 20 seconds!* Users say they're great! Let us send you copies of their enthusiastic letters—letters from firms you know. Also full details including our FREE-TRIAL installation offer!

NATIONAL Dryers Proved Best by U. S. Government Test

MAIL THIS COUPON TODAY!

NATIONAL Dryer Sales Corp.
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Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

MY NAME _____
FIRM NAME _____
STREET _____
CITY _____ STATE _____

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Install Shatterproof, Light Diffusing

FILON

Fiberglas and Nylon Reinforced

PLASTIC PANELS

For skylights, sidelights, loading dock roofs and sheds... translucent FILON filters the sunlight for greater comfort and efficiency. In flat and corrugated panels that nest with corrugated metals and asbestos. Easily installed, no costly framing. Write for brochure.

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270 Park Avenue, New York 17, N. Y.
228 North La Salle St., Chicago 1, Ill.

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How can BROOK build better electric motors that sell for Less?

1 H.P. TO 350 H.P.

Open Drip Proof (shown), Totally Enclosed Fan Cooled, Totally Enclosed Non-Ventilated Single Phase, NEMA "C" Flange, Extended Shaft Pump Motors.

HERE'S HOW —

Brook has warehouses and distribution all over the world. Brooks builds a.c. motors exclusively. As one of the oldest and largest motor manufacturers, Brook's production "know how" and volume result in motors built for a maximum service life at a lower cost.

● FAST DELIVERY OF ALL POPULAR MODELS:

Brooks Motors are available from warehouses at Chicago; Miami, Fla.; Jersey City, N. J.; Houston; Los Angeles; San Francisco; Salt Lake City; Savannah, Georgia; and other major distributing points.

BROOK MOTOR CORPORATION

Get the facts — send for brochure!

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QUICK way to cut KEYWAYS

With a *Minute Man* Keyway Broach Kit, you can cut a keyway in *one minute*. What's more, each keyway costs you as little as one cent. Kit handles keyways from 1/16" to 1" in any bore from 1/4" to 3"

HERE'S A BROACH FOR SQUARE HOLES

Minute Man High Speed Steel Square Broaches finish cast or drilled holes much more accurately and far cheaper than by hand. For 3/16" to 3/4" squares.

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MAIL FREE BROACH CATALOG AND PRICE LIST D describing 23 standard kits, 23 standard broach sizes, 71 bushing sizes, square broaches and a wide range of SPECIAL BROACHES to

Name.....

Company.....

Address.....

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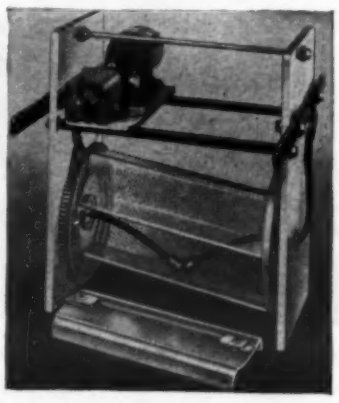
SMALL PARTS SHAKEOUT TOOL
portable unit cleans castings fast

Removal of sand from small castings is speeded up with this Shakeout Tool. It is an air-operated peen, mounted to a C-section yoke. The casting or part is placed in the yoke and the hand or foot valve is operated. Peen advances to contact the work, and a reciprocating peening stroke takes place which quickly dislodges all green and dry sand. Tool operates on shop compressed air. Made by **Gardner-Denver Co.**, Keller Tool Div., Dept. N, Grand Haven, Mich.

▲ For more details circle NED-555 J5 on enclosed inquiry slip ▲

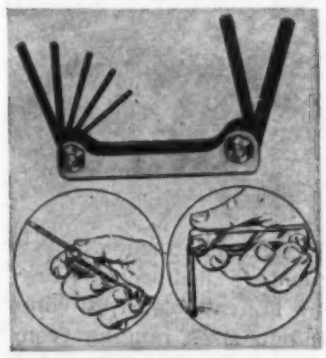
OSCILLATING PLATING CYLINDER
assures uniform barrel plating



Even exposure of work for uniform metal deposit in barrel plating operations is afforded by this double oscillating cylinder. Eccentric mounting raises and lowers opposite ends of the cylinder as it rotates. The double oscillating motion moves the work in and out and back and forth across the cylinder. Thus, all surfaces are exposed to plating current uniformly. Motion also tends to keep small parts from sticking together during plating. Cylinders are available for barrels ranging in size from 6 x 12 in. to 14 x 30 in. Made by **Belke Mfg. Co.**, 941-47 N. Cicero Ave., Chicago 51, Ill.

▲ For more details circle NED-556 J5 on enclosed inquiry slip ▲

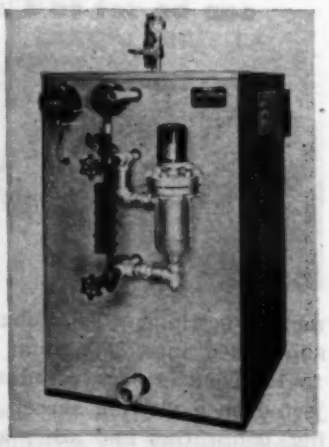
FOLDING HEX WRENCH
fits seven sizes of hex sockets



Folding compactly into an easy-grip handle for convenient storage, this 7-in-1 hex wrench can be used in 90-degree or any other position. Wrenches are chrome nickel steel, and the seven different sizes of wrenches are hardened and tempered. End of each wrench is slightly beveled to facilitate entry into the socket. Price is $1.50. Made by **Eklind Tool & Mfg. Co.**, 2629 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-557 J5 on enclosed inquiry slip ▲

STEAM GENERATORS
1½ to 15-bhp self-contained units



Speedylectric packaged steam generators are self-contained electrically operated units that operate on the electrode-resistance principle of generating steam. The UL-listed generators are offered in 1½ to 15-bhp sizes for use where high pressure, high temperature steam is required; where fuel-fired boilers cannot be used; or as supplementary steam source. Low water damage is not possible as rate of steam generation automatically slows down as water level drops. Generation stops when electrodes are uncovered. Efficiency is 98½ per cent. Operation is on 220, 440 or 550 v. Made by **Pantex Mfg. Corp.**, 427 Roosevelt Ave., Pawtucket, R. I.

▲ For more details circle NED-558 J5 on enclosed inquiry slip ▲

MANSFIELD LINE

COOLANT-PAC with MOLDED RUBBER PUMP

Model 2A1-H3

Non-Corrosive Abrasive Resistant

WORKS ON ANY MACHINE TOOL

$32.50 Complete
F. O. B. Bellville, Ohio

DEALERS WANTED — *Write for Folder*

GORMAN-RUPP INDUSTRIES, INC.
Bellville, Ohio

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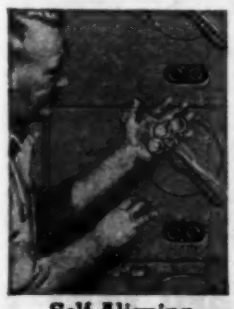
Now...the spectacular new Cutler-Hammer ★★★ Unitrol

Standardized Modular Construction
All control units are 20" wide and in multiples of 14" in height. This permits easy interchange of control units and insures good appearance at all times because horizontal lines match.

Unitrol Uni-Plug Saves Time



Self-Aligning Disconnect Operators

Fifteen years ago Cutler-Hammer Unitrol pioneered the idea of flexible control centers . . . the modern way to organize control equipment for better performance, greater safety, and quick rearrangement to meet industry's constantly changing control requirements. Few engineering advances ever received such enthusiastic acclaim or such rapid widespread use. Through the years there have been many imitations, but only *one* Unitrol.

Today Cutler-Hammer engineering leadership opens another new era in flexible control centers with the great new Cutler-Hammer ★ ★ ★ Unitrol. Star studded with features that permit new speed in installation, new speed in any reorganization of the equipment, more control units in less space, new safety for men and equipment and new motor control performance that simply has no equal. Whether you desire truly modern control for just a few machines, a full department or an entire factory, be *sure* you have all the facts about the new Cutler-Hammer ★ ★ ★ Unitrol before you buy. Write or wire today . . . CUTLER-HAMMER, Inc., 1377 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER ★★★ UNITROL C-H

The name UNITROL is a Cutler-Hammer trade mark.

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felt.. molded into special shapes

STRIP OF FELT FROM THE MOLDING PRESS

Actual molded felt part as delivered to a customer.

• American felts are moldable felts. Molded felt parts eliminate fabricating problems of stitching, cementing or stapling. They also provide one-piece integrated assemblies at lower cost for superior service where a compact, permeable shaped part is needed which will breathe, cushion, filter, seal, wick or lubricate. Review your material requirements and let our engineers apply this property of felt to your new design projects or to existing parts.

Write for our recommendation of a molded American Felt part to your specifications.

American Felt Company TRADE MARK

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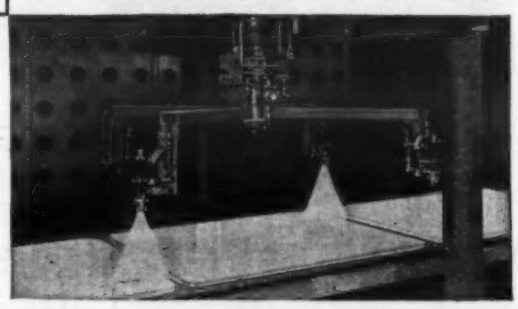
SALES OFFICES: New York, Boston, Chicago, Detroit, Cleveland, Rochester, Philadelphia, St. Louis, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle, Montreal.—PLANTS: Glenville, Conn.; Franklin, Mass.; Newburgh, N. Y.; Detroit, Mich.; Westerly, R. I.—ENGINEERING AND RESEARCH LABORATORIES: Glenville, Conn.

▲ For more details circle NED-561 J5 on enclosed inquiry slip ▲

BINKS SPRAY SYSTEMS

Automatic finishing



saves time, money, material, and cuts rejects to a minimum

Uniform finishes of high quality are applied to flatware at rates up to *100 feet per minute* by the *new* Binks Automatic Rotary Spray Painting Machine. Other automatic spray painting units are available for finishing round or many-sided products (both inside and outside), or to spray paint objects hanging from overhead conveyor systems.

FOR REAL SAVINGS and better finishes investigate automatic finishing. A Binks engineer will analyze your operation and report on potential savings that can be made in your finishing department. No obligation. Just write to:

Binks EVERYTHING FOR SPRAY PAINTING

Binks Mfg. Co.
3122-34 W. Carroll Ave.
Chicago 12, Ill.

135-55

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES. SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-562 J5 on enclosed inquiry slip ▲

When you need

DECAL NAMEPLATES

★ for identification ★ for trade marks

★ for operating instructions . . .

Make sure they're

designed, engineered & made by

MEYERCORD

• We make decal nameplates to meet the exacting requirements of every commercial surface and finish. This means we make many different types . . . some highly resistant to wear, some resistant to heat, others to meet still different requirements. The important fact is that the Meyercord Nameplate Decals you use are specially engineered to your specific needs. This all adds up to easier, faster application and longer, trouble-free service. Let us give you all the facts about Meyercord service and engineered-quality.

Ask For Your Copy of Meyercord "MARK-IT" Manual

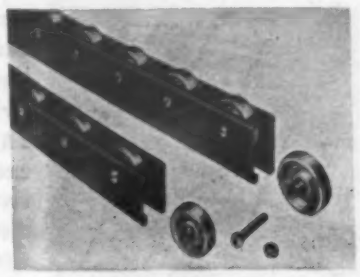
This valuable manual is yours free . . . request it on your letterhead, please. In full color, it contains important information for adopting Meyercord Decal Nameplates to reduce costs and improve product identification.

THE MEYERCORD CO. World's Largest Decalcomania Manufacturers

DEPT. H-316
5222 WEST LAKE ST.
CHICAGO 44, ILLINOIS

▲ For more details circle NED-563 J5 on enclosed inquiry slip ▲

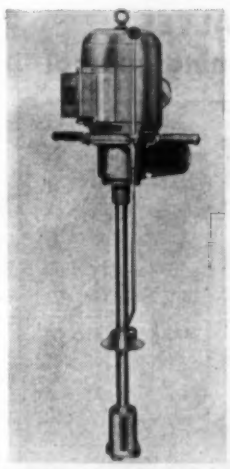
WHEEL CONVEYOR STRIP used in multiples for gravity work



Lightweight, gravity wheel, Flow Track strip conveyor is available in two standard sizes with choice of three wheel spacings for a variety of materials handling. Two-point axle support affords maximum resistance to bending under loads. Hug lock nuts hold wheel assembly securely, and wheel bearings are lubricated-for-life. Standard 10-ft section of Flow Track with supports on 5-ft centers has a distributed load capacity of 400 to 750 lb and weighs only 15 to 24 lb. Made by **Rapids-Standard Co.**, Dept. NED, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-564 J5 on enclosed inquiry slip ▲

PORTABLE ELECTRIC MIXER is ¾-hp laboratory model



Operating on same shear principle as larger models, this portable Shear-Flow mixer is ¾-hp laboratory machine. It is designed for pilot mixing or small batches, and has adjustable counterweighted stand for ease of handling. Mixing head has two stainless steel impellers that turn in opposite directions to create a pumping action that moves the material upward through the vanes of the stainless steel stator. Because the impellers are only 0.005-in. apart, a shearing action occurs which breaks up and disperses all particles. Made by **E. Horton & Son Co.**, Gabb Special Products Div., 1800 Lynch St., Windsor Locks, Conn.

▲ For more details circle NED-565 J5 on enclosed inquiry slip ▲

LIFTING MAGNET aluminum construction saves weight

Developed especially for use on boom cranes and for handling lightweight or windblown scrap, this 55-in. diameter electro lifting magnet operates on 230-v dc and draws 48 amp. Amount of lift can be controlled exactly. By using strap aluminum in place of copper in the coil, a weight saving of up to 25 per cent is obtained, this unit weighing only 5200 lb. This permits handling heavier loads or faster maneuvering with the same capacity cranes. Made by **Electric Controller & Mfg. Co.**, 4500 Lee Rd., Cleveland, O.

▲ For more details circle NED-566 J5 on enclosed inquiry slip ▲

POWER PIPE TOOL DRIVE for cutting, reaming, threading

Heavy duty construction is combined with compactness and light weight in the No. 78 Vermette power drive, usable for all pipe cutting, reaming, threading and fitting operations. It has folding tripod legs and weighs 75 lb. Chuck is quickly set up to handle ¼ to 2-in. pipe and conduit. It grips, tightens and centers pipe automatically in forward or reverse and screws fittings on tighter than is possible by hand. Other features are hardened alloy steel gears mounted on ball bearings, variable speed 115-v reversible air-cooled ac-dc motor, hardened rest bars for supporting tools on the chuck center line and an oil pan to catch oil and chips. Available from **Toledo Pipe Threading Machine Co.**, Dept. NED, 1445 Summit St., Toledo 4, O.

▲ For more details circle NED-567 J5 on enclosed inquiry slip ▲

Here's something really new . . .

THE ROCKWOOD TOP ENTRY BALL VALVE

Three unique features make this valve a wonder-worker!

Fast, Low-Cost Change in Direction of Flow. Removal of the body cap permits reversing the cage assembly to change direction of flow. You can change the direction of flow, change seat material, and clean the valves thoroughly and quickly without removing the valve from the line.

Interchangeability of seat material to meet your operating requirements without removing valve from line. Seat can be furnished in Buna-N, Neoprene, Kel-F, Teflon, and Nylon.

New Stem Design, allows the handle to be placed in any of eight positions. Giving you greater convenience in installation and operation.

Made of bronze, the Rockwood Top Entry Ball Valve is available both with sweat ends and screw ends, in sizes ½", ¾" and 1". Ideal for handling oxygen and hazardous liquids as well as water, oil and gas. Carries 300 lbs. per square inch on water, oil and gas and 400 lbs. per square inch on LP gas. Write for complete facts on these unique full round flow valves.

ROCKWOOD BALL VALVES

ROCKWOOD SPRINKLER COMPANY, 844 Harlow Street
Worcester 5, Massachusetts

▲ For more details circle NED-568 J5 on enclosed inquiry slip ▲

You save money ON SMALL PRECISION PARTS

With almost 90 years of precision metal-working experience, Torrington has developed many automatic machines and techniques to produce small precision parts in quantities, large or small, at real savings to you.

This experience and equipment enables us to give you temper, hardness, finish and tolerances exactly to your specifications—*faster, better and for less* than you could produce them yourself. Why not send a sample part or blueprint for our quotation. Ask for our Condensed Catalog which shows the many types of parts we can make economically.

THE TORRINGTON COMPANY
Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON SPECIAL METAL PARTS

Makers of Torrington Needle Bearings

▲ For more details circle NED-569 J5 on enclosed inquiry slip ▲

- Aprons
- Arm Protectors
- Blankets
- Capes (Welders)
- Clothing
- Curtains
- Firemen's Suits
- Gloves
- Hand Pads
- Head Protectors
- Leggings
- Mittens
- Shoe Covers
- Sleeves

CHECK WITH
WHEELER
FOR EVERYTHING
YOU NEED IN
SAFETY
CLOTHING

Get everything you need in protective apparel from Wheeler! From head to toe the Wheeler line is complete. When you buy from Wheeler you buy the highest quality, longest wearing, SAFEST garments available!

SEND FOR YOUR FREE COPY OF THE 20 PAGE WHEELER CATALOG

Full information and pictures on each and every Wheeler item. Every safety engineer will need this book!

WHEELER PROTECTIVE APPAREL INC.
WHEELER 234 W. Huron St. Chicago 10, Illinois
"More Safety per Dollar"

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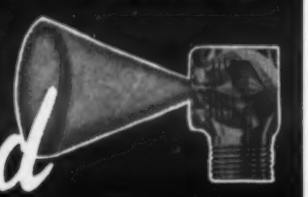
THE SPRAY NOZZLES
You Need



You'll find the nozzle to meet your specific requirements in the complete selection offered by Delavan . . . one of the world's leading producers of high quality precision nozzles.

Write for
CATALOG 32
Gives complete details and specifications on the complete Delavan line of industrial spray nozzles.

DELAVAN Manufacturing Co.
West Des Moines, Iowa

▲ For more details circle NED-571 J5 on enclosed inquiry slip ▲

Cut Stenciling Costs
Eliminate Brushes and Ball Pots
Spray
Quick-Drying, Water-Proof
Stencil Ink

- Efficient, easy-to-handle aerosol dispenser eliminates the muss and waste of leaky, sticky fountain brushes and ball pots. Nothing to clean. No waste.

7 COLORS—Black, Green, Red, Yellow, White, Orange and Blue.

The proven, widely used, modern method of stenciling boxes, cartons, drums, pails, crates—ideal for color coding of materials,—inspection marking, etc.

[Ask us also about Stencil-Kover — blocks out old stenciling — permits containers to be used again]

REYNOLDS INK, Inc.
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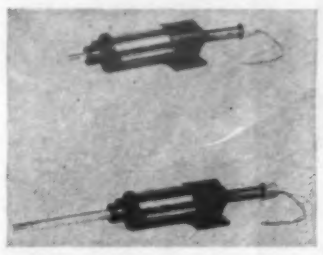
Tell us more about your Stencil Ink and Stencil-Kover
☐ Send literature ☐ Ask your dealer to demonstrate
Name.....Title.....
Company.....
Address.....

▲ For more details circle NED-572 J5 on enclosed inquiry slip ▲

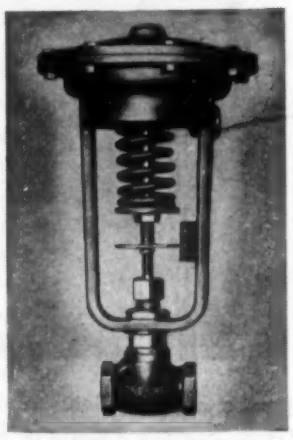
POWER CYLINDER
delivers large force in microseconds



Small electric signal is converted to relatively large mechanical force by means of line of OM-1A power cylinders. They use a controlled explosives force to lift and momentarily hold various weights through a varied range of distances. Lifting times are measured in microseconds. For example, with an OM-1B-700 replacement cartridge, cylinder will lift, and momentarily hold, a 100-lb weight through a distance of 2½ in. in elapsed time of 82,000 microseconds. Replacement cartridges are supplied to suit needs of job. Any inquiries should include specific requirements such as space limitations, necessary force, required piston travel and approximate time for travel. Write to **Atlas Powder Co.**, Ordnance Material Div., Concord Pike, Wilmington 99, Del.

▲ For more details circle NED-573 J5 on enclosed inquiry slip ▲

DIAPHRAGM CONTROL VALVES
for on-off or proportioning control



Double-seated, single-seated and three-way types of medium - duty diaphragm control valves, for either on-off or proportional control systems, make up the series 400 line. The on-off single-seated model can be supplied with plug having a soft composition disk which provides bubble-tight shut-off. The three-way valve can be used for either diverting or mixing service. Compact design of valves makes them suitable for limited space installation. Component parts in the series are standardized. Made by **Minneapolis-Honeywell Regulator Co.**, Valve Div., 435 N. Broad St., Philadelphia, Pa.

▲ For more details circle NED-574 J5 on enclosed inquiry slip ▲

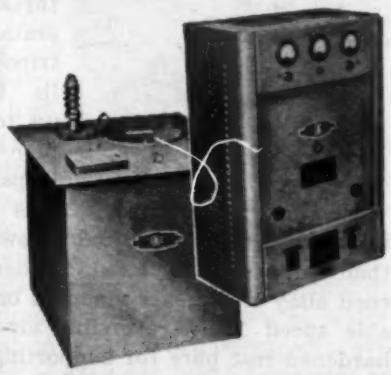
10-TON PRESS
is open-back inclinable model

Long ram ways, increased ram adjustment, precision fitted ram block for alignment, one-piece heat-treated crankshaft, semi-steel cast frame, halved bronze main bearings and Timken roller bearings for flywheel are features of this improved 10-ton open-back inclinable power press. Standard stroke is 1¼ in., with 3-in. stroke optional. It operates at 190 strokes per minute and is driven by a ¾-hp 1200-rpm motor. Either an Electromatic nine-point jaw clutch or a Multi-Power clutch is offered. Made by **Famco Machine Co.**, 3108 Sheridan Rd., Kenosha, Wis.

▲ For more details circle NED-575 J5 on enclosed inquiry slip ▲

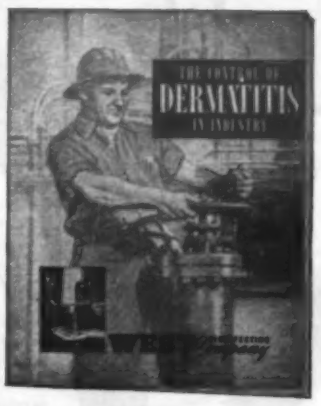
POWER SUPPLY
for electrostatic spray painting

Capable of producing a peak of 140 kw, the model HV-140 high potential power supply is UL-approved and designed for use with Super Ionic Guns for electrostatic spray painting. It is two-piece and remotely controlled. Power supply is in a heavy gage steel tank which is usually mounted above the spray booth. Control unit is wall mounted in an aluminum cabinet and incorporates an electronic spark-guard for safeguarding against arc-overs. Made by **Scientific Electric Co.**, Ionic Spray Div., 113 Monroe St., Garfield, N. J.



▲ For more details circle NED-576 J5 on enclosed inquiry slip ▲

DERMATITIS CONTROL MANUAL
outlines industrial skin care methods



This free 28-page booklet is a complete, up-to-the-minute handbook on industrial dermatitis control. It treats the subject in considerable detail, yet is written in nontechnical style for easy reading by laymen as well as doctors and nurses. Anyone interested in reducing the costs of medical care, compensation, absenteeism, and the other losses dermatitis can cause, will find this booklet extremely helpful.

The booklet describes working conditions in 19 different industries, the hazards these conditions involve, the type of dermatitis common in each set of conditions, and recommended preventive measures. Condensed into convenient reference form are the experience and know-how gathered over many years by field workers and laboratory technicians of the West Disinfecting Company.

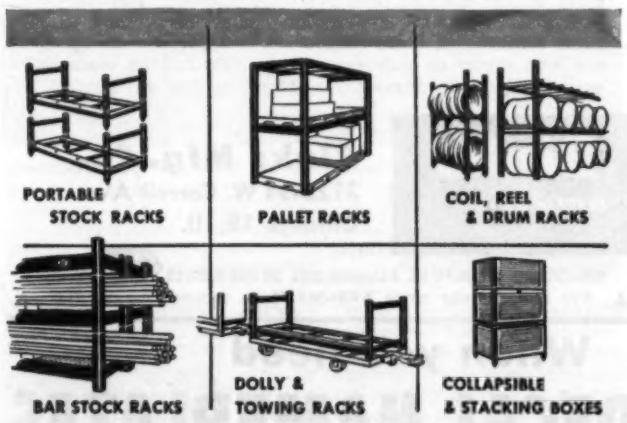
The book gains extra validity and value from West's daily contact with new industrial processes, chemicals, and jobs that are constantly complicating the dermatitis picture. This is essential reading which can lead to higher morale, increased production, and lower costs. Published by the West Disinfecting Company, Dept. 16, 42-16 West Street, Long Island City 1, N. Y. *Advt.*

▲ For more details circle NED-577 J5 on enclosed inquiry slip ▲

You Can stack ANYTHING on E.M.I. Racks

cut time and handling costs
keep your materials
well stacked!

Equipment Manufacturing storage racks that stack are fabricated of strong, square tubular steel and are adjustable to fit any space or unit load in your plant or warehouse. Special racks designed to your specifications. Field Engineering Service on any installation. Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment, write for our catalog. You save money, space and time with E. M. I. racks.



E.M.I. Pallet Racks are installed at the efficient American Locomotive Company Warehouse in St. Louis, Missouri.

Write for Illustrated Catalog
EQUIPMENT MFG. INC.
21566 HOOVER ROAD • DETROIT 5, MICHIGAN

☐ Materials Handling Equipment
☐ Stacking Racks for Industry

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Even workers wearing glasses say they "never had it so COMFORTABLE!"

Workers who wear prescription glasses—even big plastic frames—are mighty glad to get the extra roominess provided by NO. 90A MONOGOGGLES. Its greater clearance results in utmost comfort.

Ask your Willson distributor to demonstrate its unique protection against light impact hazards like those found in spot welding, buffing, woodworking and chemical handling. You have a choice of ventilated or non-ventilated frames, clear or green plastic lenses. Bulletin mailed promptly on request.

Every exclusive feature in NO. 90A MONOGOGGLES® adds up to Lightweight Comfort—Extra Convenience—Superior Impact Resistance!

More Than 200 Safety Products Carry This Famous Trademark

WILLSON

Leaders in Research and Development of Safety Equipment Since 1870

WILLSON PRODUCTS, INC.
219 Washington St. • Reading, Pennsylvania

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$2690 f.o.b. factory — 16" x 6' Toolroom Lathe less electrical equipment

—A BETTER VALUE

Here is a lathe that will give you maximum return for every dollar invested. Versatile . . . highly accurate . . . easy to operate, it makes difficult close-tolerance jobs easier. Designed for hard industrial use, it will continue to turn out, year after year, the kind of precision work modern tooling demands. And you'll be surprised at the low maintenance cost. Prompt delivery — time payment terms available. Write for catalog.

SOUTH BEND LATHE

SOUTH BEND 22, IND. • *Building Better Tools Since 1906*

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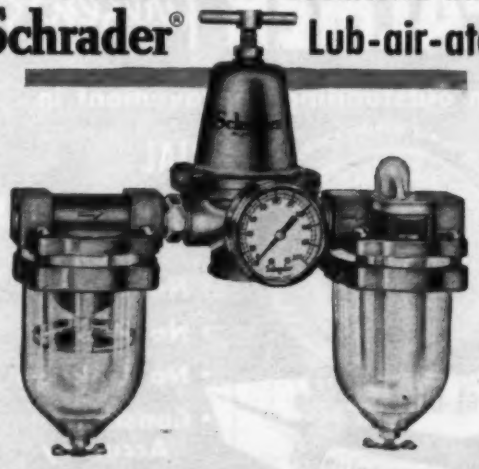
NEW!

FILTER . . . REGULATE . . . LUBRICATE with this Schrader® Lub-air-ator



Now! All in one installation: The Schrader LUB-AIR-ATOR. This new, quality unit is designed to do these three important jobs: **filter** clean the air as it moves through system—**regulate** air to proper pressure requirements—**lubricate** moving parts in the correct amount to minimize wear and friction. End result: your valuable air tools give longer trouble-free service. You will find full details in the Schrader Catalog. Send for it today.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. X-9, Brooklyn 38, N. Y.

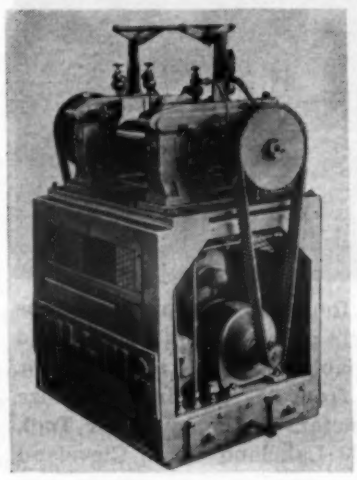
▲ For more details circle NED-581 J5 on enclosed inquiry slip ▲

METALLURGICAL MICROSCOPE interchangeable stage plates

Metal analysis can be speeded by this metallurgical microscope which features large focusing stage with interchangeable stage plates, fine adjustment focusing knob located at table level and accessory lens for concentrating external illumination into the microscope for photomicrographic use. Both transparent and opaque specimens can be examined. Instrument has a vertical illuminator and triple revolving objective turret. Two models are available, one with a monocular body, the other with a binocular body. Accessory Tri-vert illuminator makes possible study of opaque or semi-opaque specimens in bright field, dark field or polarized light. Made by **Bausch & Lomb Optical Co.,** 727 St. Paul St., Rochester 2, N. Y.

▲ For more details circle NED-582 J5 on enclosed inquiry slip ▲

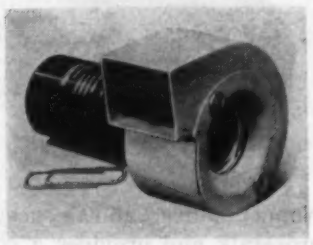
LABORATORY MILL dual drive unit is compact



Exceptionally compact 6 x 12-in. dual-drive mill is designed for laboratory uses requiring wide range of speeds and friction ratios. Both rolls are separately and infinitely variable in speed through 8-to-1 range direct current motors. Direct current is supplied from electronic variable speed rectifiers. Antifriction journals are flood lubricated from separately motorized pumping unit contained within the compact base. Made by **Stewart Bolling & Co.,** 3190 E. 65th St., Cleveland 27, O.

▲ For more details circle NED-583 J5 on enclosed inquiry slip ▲

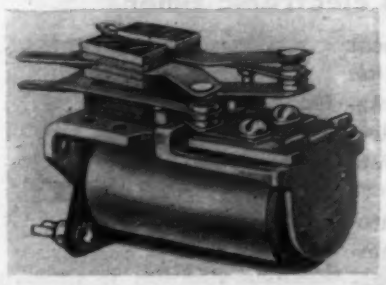
SUBMINIATURE BLOWER cools electronic equipment



Only 2⅞ in. long and weighing less than 6 oz, this compact high velocity subminiature centrifugal blower is designed for cooling airborne electronic equipment. It meets MIL specifications and is available for rotation in either direction in single and double-end models. Metal blower housing can be rotated to any required position. Free air delivery of the single-end model is 13 cfm at 20,000 rpm and 7 cfm at 11,000 rpm. Velocity of former model is 3000 fpm. Motor is available for single or three-phase alternating current. Made by **Eastern Air Devices, Inc.,** 369 Central Ave., Dover, N. H.

▲ For more details circle NED-584 J5 on enclosed inquiry slip ▲

MINIATURE RELAY handles heavy and low level loads



Switching of heavy currents up to 10 amp and high operating sensitivity are combined in this miniature power relay. Heavy current contacts can be furnished in combination with bifurcated contacts for switching both heavy loads and low level signal loads with the same relay. Coil and contact terminals at mounting end facilitate concealed wiring of individually mounted or strip-mounted relays. Combinations up to four-pole double-throw can be furnished with hermetically sealed or dusttight enclosures. Relay is available for up to 440 v, 60-cycle ac or 230 v dc. Made by **Magnecraft Electric Co.,** 3350-K W. Grand Ave., Chicago 51, Ill.

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SARCO*fin* GIVES YOU ALL THESE ADVANTAGES!

APPROVED RATINGS for finned-tube and baseboard radiation.

1-YEAR GUARANTEE by Sarco and Sarcotherm.

COOPERATION—careful selection of radiation by experienced Sarco and Sarcotherm heating engineers.

COMPLETE LINE—get from one source...SARCO ...finned-tube and baseboard radiation, heating specialties, pumps, temperature regulators, Sarcotherm weather-compensated control systems.

Write for Bulletins.

SARCO COMPANY, INC.
Empire State Building, New York 1, N. Y.

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new, unique

Timing Rotorseal gives **better, safer press operation...**

- serves as both rotating air-seal and timing device
- compact design saves shaft space
- completely sealed and self-contained
- provides simple cycle adjustment
- convenient to install and service
- simplified mounting
- may be adapted to existing equipment
- operates at speeds to 500 R.P.M.

FAWICK Timing Rotorseals are available in individual units or as an integral part of the FAWICK Standardized Press Application, a low-cost kit for converting O.B.I. and straight-side presses from mechanical to pneumatic clutch and brake.

See the Timing Rotorseal and other FAWICK products in action at Press Manufacturer' Booths in the Machine Tool Show in Chicago, September 6-17. You are also invited to visit the FAWICK Airflex Booth 215 at the Metalworking Machinery and Equipment Exposition at the Chicago Coliseum, September 6-17.

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON ROAD • CLEVELAND 11, OHIO
IN CANADA: FAWICK CANADA, LTD., TORONTO—MONTREAL

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

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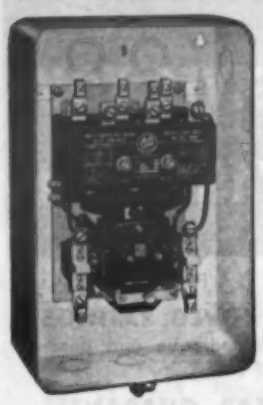

TROUBLE-FREE SOLENOID STARTERS for Automatic Control

The Sign of QUALITY Motor Control

Bulletin 709 solenoid starters have only ONE MOVING PART. No pins, pivots, bearings, or linkages to corrode and stick. The silver alloy, double break contacts need no maintenance. Two relays give accurate overload protection. Write for Bulletin 709.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
MOTOR CONTROL

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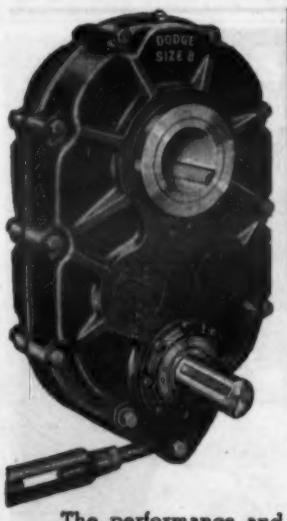


60 H.P. Torque-Arm SPEED REDUCER

New Big Size!
New Big Savings!

The performance and economy of Dodge Torque-Arm Shaft-Mounted Speed Reducers are now available for your big jobs. New size No. 8, in the double reduction series, has 60 hp capacity at 100 rpm, AGMA rating. And with a new No. 11 (single reduction) Torque-Arm, America's most complete line of shaft-mounted speed reducers is now available in capacities from 1 hp to 60 hp; output speeds of 12 to 365 rpm. Write for Bulletin.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

▲ For more details circle NED-589 J5 on enclosed inquiry slip ▲

Save Time...Labor...Material with BEVERLY metal cutting SHEARS

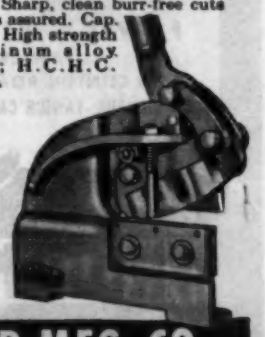
throatless SHEARS

Make any cut—straight, irregular, curved. Exclusive design permits turning work any direction while cutting. 4 models—cap. to 3/16".

Inside SLOTTER

Makes cuts up to 8" inside edge of sheet. Sharp, clean burr-free cuts always assured. Cap. 16 ga. High strength aluminum alloy body; H.C.H.C. blades.

slitting SHEAR



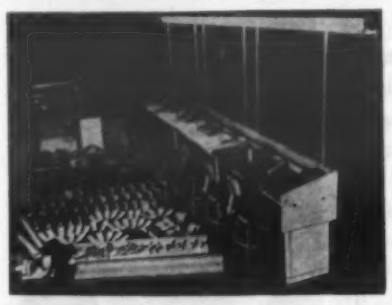
New "SS" Series—easier cutting with compounded linkage. 3 models—cap. to 1/8"; trimming capacity to 3/8" mild.

See your Beverly Distributor. Write for FREE illustrated Bulletin.

Beverly SHEAR MFG. CO.
3016 W. 111th STREET • CHICAGO 43, ILLINOIS

▲ For more details circle NED-590 J5 on enclosed inquiry slip ▲

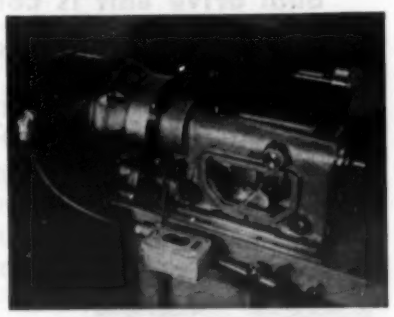
WORK SIMPLIFICATION KIT for maximum space utilization study



Purpose of this Work Simplification and Automation Study Kit is to show how more production can be derived from less space through the application of the Alden Work Center System. It contains everything needed by those interested in production methods and product design to experiment and perfect operational methods, set up and run pilot lines and produce job lots of finished materials. Among equipment included to establish a production line are work centers, power circuits, piping, conveyors, machines, jigs, gages, fixtures, storage slides, posture chairs, lighting and shelving. Developed by **Alden Systems Co.**, Dept. 1, Washington St., Westboro, Mass.

▲ For more details circle NED-591 J5 on enclosed inquiry slip ▲

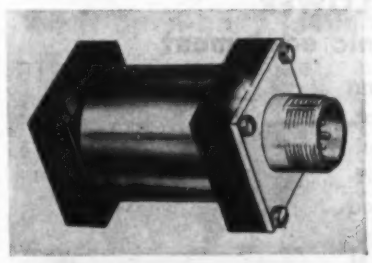
QUILL FEED UNIT for drilling, tapping and reaming



Available in capacities up to 5 hp, four sizes of cam feed heads are designed to drill, ream, tap, mill and perform similar operations. Self-contained, units are powered by single motor. Standard equipment includes four standard-purpose cams and complete sets of cycle change gears. Feeds and speeds are infinitely variable from 300 to 4032 rpm, and stroke is adjustable from 2⅜ to 5 in. Drill size range is ⅜ to 2-in. diameter. Made by **Zagar Tool, Inc.**, Dept. NE4-55, 24000 Lakeland Blvd., Cleveland 23, O.

▲ For more details circle NED-592 J5 on enclosed inquiry slip ▲

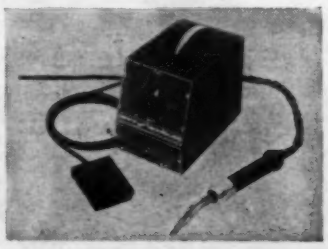
ACCELEROMETER for 1/10 to 50-G applications



Yaw damping, acceleration limiting, turning rate and similar aircraft applications as well as industrial automation uses are accommodated by this series of accelerometers. Nonpendulous, linear response element eliminates crosstalk and provides a completely basic linear output. Response elements can be housed in a variety of frames to meet mounting conditions and are available with potentiometer pickoff, inductive pickoff, or switches with manual or automatic reset. Series offers a choice of ranges, damping ratio, and output resistance or impedance. Temperature-compensated damping is available in most models. Made by **Cedar Engineering, Inc.**, Dept. E, 5806 W. 36th St., Minneapolis 16, Minn.

▲ For more details circle NED-593 J5 on enclosed inquiry slip ▲

SOLDERING TOOL incorporates electronic timer



Accurate repetitive heat cycles can be obtained on the electronic MicroBrazer by virtue of its electronic timer. It permits untrained operators to perform virtually automatic soldering on assembly line operations. Heating is adjustable through a range of 1/60 to 3 seconds. Once set, the same electronically controlled heat pulse is delivered between two probe tips each time the operator presses a foot switch. Silver solder brazing on small parts to 1250° F is possible. Unit is furnished with timer, foot switch and choice of several standard and heavy duty probes. Made by **Zephyr Mfg. Co.**, Dept. N4-A, 201 Hindry Ave., Inglewood, Calif.

▲ For more details circle NED-594 J5 on enclosed inquiry slip ▲

More than 4000 Models

DARNELL CASTERS & WHEELS

RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelleprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

RUST-PROOFED . . . by the Udylite process, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

STRING GUARDS . . . Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

LUBRICATION . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.

SEND FOR FREE MANUAL

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY), CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

• Save Money, Floors, Equipment and Time

▲ For more details circle NED-595 J5 on enclosed inquiry slip ▲

IDEAL

You can depend on Wiedeke quality

Guard holds Flare Roll Back—desirable for rolling Tubes closely spaced in thin Tube Sheets.

Package Boiler

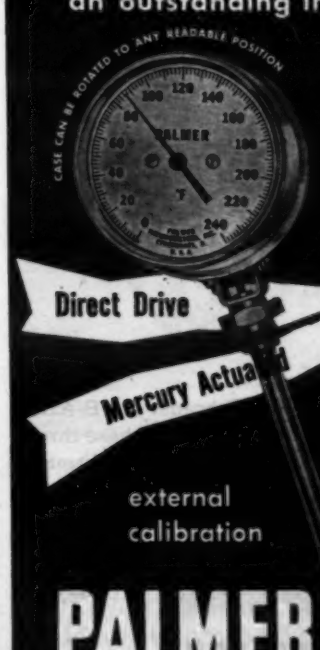
. . . and Stationary Fire Tube Boiler Tubes can be rolled and flared in one operation with this Modern Parallel Rolling Tube Expander.

See your Dealer or Write us for Bulletin 3400.

THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

▲ For more details circle NED-596 J5 on enclosed inquiry slip ▲

PALMER presents an outstanding improvement in DIAL THERMOMETERS



Direct Drive

Mercury Actua

• No Sector
• No Pinion
• No Linkage
• Constant Accuracy
• Easy Readability

external calibration

Full 3½" Dial Face

WRITE FOR BULLETIN 350

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory Recording and Dial Thermometers

▲ For more details circle NED-597 J5 on enclosed inquiry slip ▲

PROBLEM: swift, efficient movement of materials

When a materials handling problem is costing you time and money, your quick solution is to call in a Simplicity sales engineer.

SOLUTION: Simplicity feeders and conveyors

Food and chemical processing plants, foundries, mines and quarries all over the country are solving their materials handling problems with Simplicity equipment.

Whether you are handling hot foundry sand and castings or a frozen food product, there is a Simplicity conveyor and feeder designed for your purposes. Simplicity conveyors and feeders with one or two carrying surfaces will provide you with a steady product flow when you want it, where you want it.

Simplicity

155

ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: SIMPLICITY MATERIALS HANDLING LIMITED, GUELPH, ONTARIO

▲ For more details circle NED-598 J5 on enclosed inquiry slip ▲

For Small Production Runs

Cut Your Studs, Bolts, Hangers from

REDI-BOLT®

CONTINUOUSLY THREADED STEEL RODS

13 SIZES, 3/16" TO 1 1/2"

Small-run requirements for special studs, bolts, etc., are easy to handle, if you have a supply of REDI-BOLTS on hand. You just cut REDI-BOLT to the length you need . . . even heat and bend it . . . and add standard nuts. No threading necessary. These continuously threaded steel rods eliminate the need for "big" special-bolt inventories and the expense of small-quantity purchases.

REDI-BOLT is cold-drawn steel—20% stronger than ordinary steel! Available in standard lengths of 24" and 36" with *Standard National Coarse* and *SAE* or *National Fine* threads. Other lengths on special order.

IDEAL FOR 101 INSTALLATION, REPAIR, AND MAINTENANCE JOBS, TOO!

Made by the makers of REDI-ROD Steel and Aluminum Bars

Ask your Mill Supply House, or write

REDI-BOLT, Inc., 5312 Indianapolis Blvd., East Chicago, Ind.

▲ For more details circle NED-599 J5 on enclosed inquiry slip ▲

LABORATORY STERILIZER is electrically heated hot air unit

Designed for sterilizing glassware, instruments, powders and other objects, Force-Aire Sterl-Cab electrically heated hot air sterilizing ovens are also usable for routine laboratory evaporation and drying tests. Sizes range from 19 x 19 x 19 in. to 37 x 25 x 19 with double doors. Thermostatically controlled temperatures up to 270° C can be maintained in units which have stainless steel interiors, 4-in. thick glass wool insulation, silicone rubber gaskets, piano type hinges and G-E motor driven blower. Made by **Chicago Surgical & Electrical Co.**, Dept. 10, 3070-82 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle NED-600 J5 on enclosed inquiry slip ▲

TEMPERATURE CONTROLLER has three types of controls

Thermotrol temperature controller is supplied with resistance type temperature bulbs having a time constant of less than 1 second. Bulbs presently available provide for a range of −70 to 200° C for liquid baths and −70 to 300° C for air baths. Instrument, supplied in one range to match the bulb used, can be used as an on-off controller, proportional controller or proportional controller with reset by turning a switch. Sensitivity is 0.001° C when in on-off use. As a proportional controller the proportional range is adjustable in nine steps representing 0 to 100 per cent. Reset rates are adjustable in eight steps ranging from 6 to 90 seconds. Made by **Hallikainen Instruments**, Dept. A, 1341 Seventh St., Berkeley, Calif.

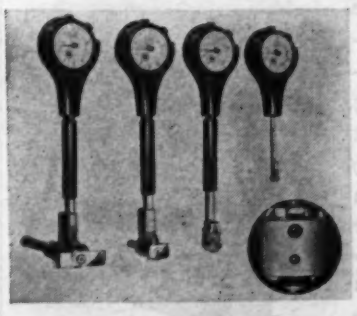
▲ For more details circle NED-601 J5 on enclosed inquiry slip ▲

PLASTIC CABLE CLAMPS are glass fiber fabric reinforced

Developed originally for use in aircraft, line of glass fabric reinforced plastic cable clamps is also suitable for use in many other fields. Clamps provide good electrical insulation, are abrasion resistant, withstand high heat and are easy to install. They are available in size numbers from 2 to 32 and in cable diameters from 1/8 to 2 in. Made by **Lunn Laminates, Inc.**, Oakwood Rd. & W. Eleventh St., Huntington Station, N. Y.

▲ For more details circle NED-602 J5 on enclosed inquiry slip ▲

ADJUSTABLE HOLE GAGE design assures accurate centering



Diameters from 1/2 to 8 in. are measured accurately with model 125OP series of adjustable dial hole gages. Centralizing design is such that careful alignment of the gage laterally is unnecessary in order to obtain correct measurement of the hole diameter. Feature also permits setting the gage directly to the flat surfaces of gage blocks, thus eliminating the need for master ring gages. The transfer accuracy in this case is better than 0.00005-in. Effect of wear is minimized because of the large contact surface of the centralizer, tungsten carbide gaging points and jeweled bearings in the head. Insulation prevents any effect on accuracy by heat of operator's hand. Made by **Federal Products Corp.**, 1118NR1 Eddy St., Providence 1, R. I.

▲ For more details circle NED-603 J5 on enclosed inquiry slip ▲

IT ONLY TAKES 2 . . .

RULE 41 AMENDED TO ALLOW 2-STRIP CENTER-SEAM SEALING!

CUT COSTS UP TO 2/3 WITH

Filament Reinforced Sealing Tapes And The FAMOUS

DERBY 32-T

The first important closure method change in 40 years! . . . now use 2 strips of tape for all shipments! The Derby 32-T especially designed to dispense all brands of tough filament reinforced tapes quickly, easily, accurately!

Cut Your Shipping Room Costs! Write now, Dept. NED for free booklet about 2 strips and the Derby 32-T

DERBY SEALERS, INC.
DERBY, CONNECTICUT

▲ For more details circle NED-604 J5 on enclosed inquiry slip ▲

For PRESS STAMPING PRODUCTS WITH CURVED OR STRAIGHT LINE MARKING

PRESS STYLE STEEL TYPE HOLDER

MODEL PH-50

Body and press shank are one piece with flanges to hold type chase in position. Type chase with almost any size or number of characters can be removed and inserted without operator placing hands in press.

Write for Catalog 100

Mecco SAFETY MARKING TOOLS

M.E.CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-605 J5 on enclosed inquiry slip ▲

NEW NP Power Drive Cylinder

. . . has all the "most wanted" design features

No other cylinder offers so many vital features . . . including: compact, streamlined design; lightweight aluminum alloy and steel construction with *no* sacrifice of strength; sealed-in lubrication which eliminates need for external line lubricators; optional adjustable cushioning (can be added any time). Operates with air, water or oil without interchanging or adding parts.

SPECIFICATIONS — Ratings: air — 200 psi; water or oil — 500 psi. Bore diameters: 1 1/2", 2 1/4", 3", 4". Mountings: foot, flange, pivot, clevis, trunion.

For data sheets illustrating many other features, write Industrial Actuators and Controls Division.

NATIONAL PNEUMATIC CO., INC. AND HOLTZER-CABOT DIVISIONS

125 Amory St., Boston 19, Mass.
Sales Service Representatives in Principal Cities throughout the World

Designers and manufacturers of mechanical, pneumatic, hydraulic, electric and electronic equipment and systems

▲ For more details circle NED-606 J5 on enclosed inquiry slip ▲

▲ For more details circle NED-607 J5 on enclosed inquiry slip ▲

"Stack up" with American STORAGE RACKS

and cut your handling and warehousing cost!

When you "stack up" with American Tubular Storage Racks, you also "stack up" savings. The ingenious and simplified American feature, "erected without bolting or welding," has made them first choice with many businesses both large and small. American Racks are designed to meet practically every storage need. Send for catalog and get the facts on American before you buy any type of rack.

Among those sold on American are:

Central Warehouse Co.
Ford Motor Co.
Link Belt Co.
McKesson & Robbins, Inc.
Radio Corporation of America
Standard Brands, Inc.
U. S. Rubber Co.
F. W. Woolworth Co.

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5959 Linsdale • Detroit 4, Michigan

▲ For more details circle NED-608 J5 on enclosed inquiry slip ▲

GLUE GUNS operated by air pressure

Semiautomatic application of glues, adhesives, cements, pastes and gums can be made by the FF glue guns, operated by air pressure through internal valves. Adhesive flow is under finger-tip control. They are built in varied sizes for surface and edge use and small joint assembling. Guns with special contours and shapes are available. Pressure equipment is offered in 1, 2½ and 5-gal capacities. Made by **John P. Fox Co.**, Dept. G-350, 5514 York Blvd., Los Angeles 42, Calif.

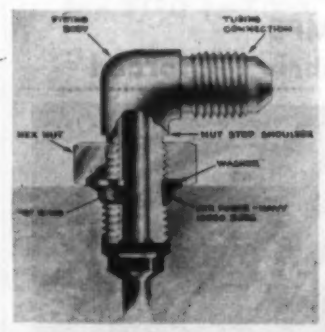
▲ For more details circle NED-609 J5 on enclosed inquiry slip ▲

COMPRESSION TESTER lightweight unit is portable

Compression and crushing tests can be made quickly and easily on metals, ceramics, wood and plastic parts; paper boxes and other containers; soils, building and highway materials; and springs and similar items with this lightweight portable compression tester. Load is applied to the test specimen through a hydraulic system actuated by compressed air. Load is indicated on the dial of a calibrated double proving ring. Standard model has a load capacity of 500 lb with air pressure of 100 psi, but machines with capacities up to 1000 lb can be supplied on order. Handle-equipped air storage tank is available for using the tester where air supply is not available. Made by **Soiltest, Inc.**, 4713 W. North Ave., Chicago 39, Ill.

▲ For more details circle NED-610 J5 on enclosed inquiry slip ▲

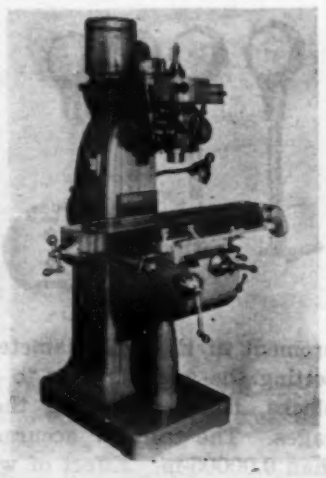
TUBE FITTINGS feature O-ring seal



Leakage and directionalizing problems encountered in application of hydraulic tubing can be solved through use of Ring Seal fittings. They incorporate an O-ring and boss combination to obtain a leakproof seal, even after repeated use. They require about the same space as other fitting designs. Fittings incorporate a straight or angular body with standard JIC 37-degree flare end for connection to the tubing. Various fitting types, plugs and adapters are available in sizes to fit ¼, 5/16, ⅜, ½, ⅝, ¾ and 1-in. tubing. Made by **Monarch Machine Tool Co.**, Oak St., Sidney, O.

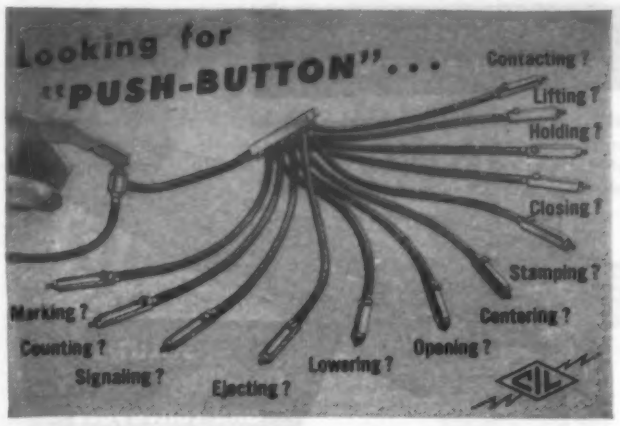
▲ For more details circle NED-611 J5 on enclosed inquiry slip ▲

VERTICAL MILLING MACHINE has 1½-hp or optional 2-hp head



Improved system of table gibs on the Super 55 vertical milling machine allows the table clamping mechanism to be brought to the front side of the saddle and still retain rod trays adjacent to the fixed table slideway. Machine is offered with a 1½-hp or optional 2-hp head with heavy duty motor. Cast iron pulleys which, with drive system are dynamically balanced, have flywheel effect that contributes to spindle rigidity. End mill capacity in tool steel is ⅛ to 2½ in. and in milder steels and cast iron, 2 in. or more. Table sizes are 40 x 9 in. and 46 x 9 in. Made by **Index Machine Co.**, 543 N. Mechanic St., Jackson, Mich.

▲ For more details circle NED-612 J5 on enclosed inquiry slip ▲



Clippard Miniature Air Cylinders, Valves, Accessories, MAY BE THE ANSWER!

Miniature spring-return cylinder, 2-3/16" x 7/16", and air valve, 1-3/16" x 5/8" overall, operate on 12 to 100 psi, up to 800 cycles per minute! Incorporate them into that automatic, or semi-automatic work set-up you are now considering to speed production. Accessories include complete line of miniature fittings, hose, manifolds, brackets and cam follower head. Illustrated literature, power and static data, dimensional drawings and price list free on request by writing:

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Road, Cincinnati 24, Ohio
Manufacturers of R. F. Coils, Electronic Equipment, Miniature Pneumatic Devices

▲ For more details circle NED-613 J5 on enclosed inquiry slip ▲

Another new development using B. F. Goodrich Chemical raw materials

B. F. Goodrich Chemical Company does not make this feeder. We supply only the Geon resin for the rigid vinyl plastic.

All rigid vinyl feeder handles sulfuric acid 24 hours a day

THE feeder pictured supplies a steady flow of concentrated sulfuric acid to a production process. In use 24 hours a day, it required no maintenance or repairs after 6 months of this severe service. This remarkable record is due to the outstanding corrosion resistance of Geon rigid vinyl from which all feeder parts, except the motor, are made. Similar feeders made from other materials frequently broke down in service. Geon rigid vinyl handles corrosive materials, is tough, strong and has excellent electrical properties. For technical information, write Dept. BU-5. B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

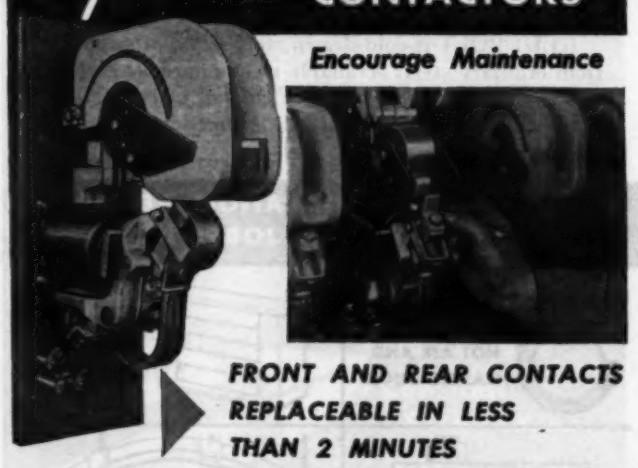
Geon Polyvinyl Materials

GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more salable
GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

▲ For more details circle NED-614 J5 on enclosed inquiry slip ▲

Improved EC&M LINE-ARC CONTACTORS

Encourage Maintenance



FRONT AND REAR CONTACTS REPLACEABLE IN LESS THAN 2 MINUTES

The LINE-ARC principle gives long contact-life, but when necessary, contacts are easily accessible for quick renewal—no other parts need be removed first. And a standard wrench permits good leverage for loosening and tightening operations. *It pays to encourage maintenance.*

WRITE FOR BULLETIN 1145

THE ELECTRIC CONTROLLER & MFG. CO.
4498 LEE ROAD • CLEVELAND 28, OHIO

▲ For more details circle NED-615 J5 on enclosed inquiry slip ▲

SOCKET SCREWS...

standard or special?

It pays to use Mac-it for all your socket screw needs—standard or special. Your Mac-it distributor will give you quick delivery on all standard sizes and will provide prompt, qualified assistance on your "special" problems. There are many other reasons why you should specify Mac-it. Consult your local distributor or write for your catalog today:

Mac-it Screw Division
STRONG, CARLISLE & HAMMOND COMPANY
CLEVELAND 13, OHIO
Mfd. by Mac-it Parts Co., Lancaster, Pa.

▲ For more details circle NED-616 J5 on enclosed inquiry slip ▲

BIG NEW HANDLE

Meets specifications of MIL-C-4150-A and MIL-T-945-A. Grasping handle has insulating sleeve that will not crack or chip at −65° F. or become sticky or tacky at +160° F.

If you have a carrying case problem, please read this. It's all about a new kind of handle.

It's a rattle proof handle

A reclaiming spring forces the grip down against the surface and holds it firmly in place.

It's sturdy and safe

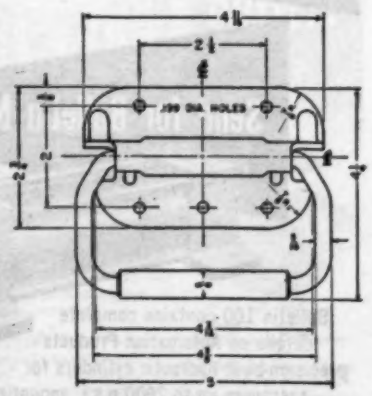
It has a "snap-back" feature ideally suited for many uses in industry where conventional type handles are not satisfactory. It is strong enough to lift 200 lbs. with an adequate safety factor. Fingers are free from pinching.

Corrosion proof

Made of carefully selected materials which are treated to provide maximum resistance to rust and corrosion.

Easily applied

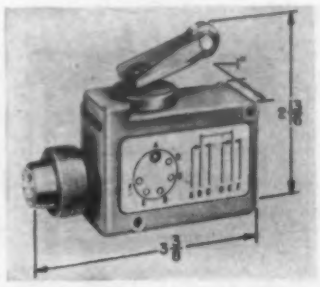
Nuts and bolts, welding or other suitable fastening may be used as long as the surface to which it is attached is as strong as the back of the plate handle.



Bendix-Friez
FRIEZ INSTRUMENT DIVISION OF
BENDIX AVIATION CORPORATION
1444 TAYLOR AVENUE, BALTIMORE 4, MARYLAND
Export Sales, Bendix International Division,
205 E. 42nd St., New York 17, N.Y., U.S.A.

▲ For more details circle NED-617 J5 on enclosed inquiry slip ▲

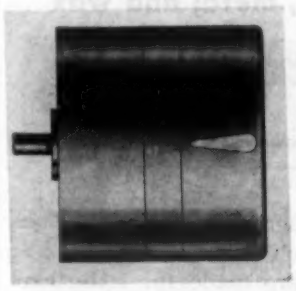
SEALED LIMIT SWITCHES
withstand severe environments



Line of EP sealed limit switches is designed for use in aircraft, mobile, marine and industrial applications where environmental conditions are severe. In addition to being sealed, switches contain an inert gas which prevents their operation from being affected by atmospheric changes or environmental shocks. They are offered in either side or bottom-mounting designs and conform to MIL-S-6744 vibration and shock-resistance tests, as well as immersion test specifications MIL-E-5727A. Contact arrangement is two-circuit double-break for controlling two isolated circuits. Switches are rated 1 to 15 amp depending on voltage and type of load. Made by **Minneapolis-Honeywell Regulator Co.,** Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle NED-618 J5 on enclosed inquiry slip ▲

BRAKE-MOTOR
intermittent duty type



Starting torques of this intermittent duty, nonventilated type brake-motor are up to 500 per cent of running torque, sufficient to overcome starting inertias of heavy loads or those that are stuck or "frozen." Applications include raising and positioning of heavy cutting blades or positioning work on a lathe. The "wafer" unit measures 8⅝ in. OD by 7⅝ in. long. Power span is 5 minutes on and 5 minutes off. Brake-motors are polyphase, totally enclosed and can be flange mounted in any position. Motor ratings are from ⅓ to 1½ hp; brakes, from ½ to 25 ft-lb. Made by **Reuland Electric Co.,** Mission & Fremont, Alhambra, Calif.

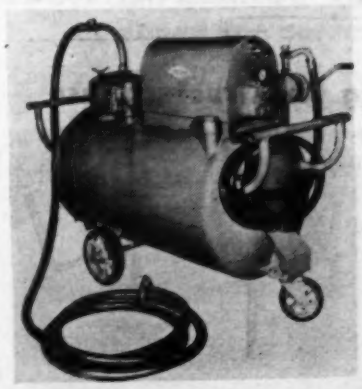
▲ For more details circle NED-619 J5 on enclosed inquiry slip ▲

OZONE GENERATOR
stops mold, mildew, organic odors

Four ozone generating grids contained in the Air-O_3-Fresh Falcon portable ozonator diffuse controlled concentrations of ozone oxidizing agent. When circulated in coolers, lockers, storage areas and food handling areas, the ozone stops mold, mildew and bacteria growth and eliminates organic odors. It plugs into any 105-125 v ac outlet and can be mounted on bench or shelf or suspended from the ceiling by chains. Four-way switch permits off, low, medium or high output. Made by **Melco Sales, Inc.,** 307 Fifth Ave. S., Minneapolis 15, Minn.

▲ For more details circle NED-620 J5 on enclosed inquiry slip ▲

MACHINE TOOL SUMP CLEANER
removes old oil, delivers fresh oil



Old oil, sludge and chips are removed from machine tool sumps and fresh oil is delivered to the machine in one operation by the 20T-120 sump cleaner. Machine also filters out waste materials from old oil at the same time. It has 75 gal capacity for both fresh oil and waste oil Hand-operated pump dispenses fresh oil, while a ½-hp motor builds up vacuum in 15 seconds for cleaning operation. It is mounted on two 12-in. rubber-tired wheels and one 8-in. swivel caster for mobility. Standard equipment includes 10-ft long 1-in. neoprene hose for dispensing oil and 20-ft long 1¼-in. neoprene suction hose fitted with 4-in. flare nozzle for reaching corners and recesses. Up to 200 gal total capacity is also available. Made by **Coolant Equipment Corp.,** Dept. D, S. Main St., Verona, Wis.

▲ For more details circle NED-621 J5 on enclosed inquiry slip ▲

amazingly compact gearing

MOTORIZED!

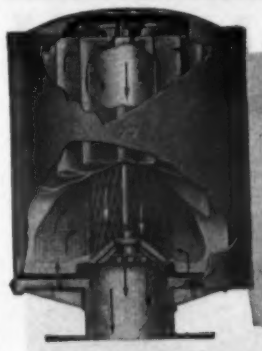
New, Cone-Drive motorized speed reducers provide the most compact drive package available. All the space-saving advantages of double-enveloping worm gearing are combined with motorizing's elimination of pulleys, belts, bearings, extra mountings, etc.

There's no secret behind Cone-Drive gearing's amazing compactness. It's the double-enveloping worm gear design, which means much smaller center distances to carry the load. Gears and housing are much smaller and weight is reduced, too.

Motorized Cone-Drive speed reducers are versatile. You can specify them without motor and utilize your own NEMA C-flange motors if desired. Capacities up to 9 hp in both extended shaft and shaft-mounted models. Ratios are standard from 5:1 to 60:1. Worm over, under or vertical models in stock.

CONE-DRIVE GEARS
Division Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNichols Road • Detroit 12, Michigan

▲ For more details circle NED-622 J5 on enclosed inquiry slip ▲



STAYNEW DRY TYPE INTAKE FILTERS NEED NO SERVICING!

MODEL D Intake Filter

Only Staynew Intake Filters have the ability to remove air-borne particles without the necessity of viscous filter aids. The *dry-type* filtering medium becomes even more efficient as it accumulates dust. Resistance increases very slowly with use. Staynew filters frequently operate two or more years without attention. When cleaning is indicated, a brush or simple vacuum tool is all you need. There are no oil reservoirs to clean and refill—no oil coatings to renew.

Write today for Intake Filter Bulletin 100

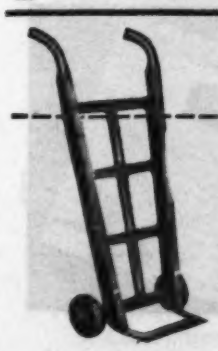
Representatives in principal cities

DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION
49 Centre Park • Rochester 3, N. Y.

ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

▲ For more details circle NED-623 J5 on enclosed inquiry slip ▲



If it moves—
there's an American hand truck to move it

No matter what kind of merchandise you handle—boxes, bags, kegs, crates, appliances—you'll move them faster, easier with an American all-steel truck custom-designed for the specific job.

Over 50 different models and sizes
Eastern and Western Types
Die-formed, pressed-steel side rails, cross-braces and bars are lighter, stronger than steel-reinforced wood
Steelite® ball bearing, rubber tread wheels give years of extra, free-rolling wear
Finger-tip balance makes light, fast work of heavy loads

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Please rush your free catalog showing the complete American Material-Handling Line.
Name
Company
Address
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THIS BROCHURE describes the full line, complete with all specifications.

Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Tubar CRANE

Manufactured by UHRDEN, INC. • DENNISON, OHIO

Jobber Territories Available

Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts

U-255-105

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New! VARY-TALLY

Multiple-Unit Reset Counter

Single units, or any combination up to 6 banks high, 12 units wide. Write

VEEDER-ROOT Inc.

HARTFORD 2, CONN.

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All about Titanium tubing

Here's a newly revised 8-page booklet you'll want for your files. It gives you the properties, advantages and end uses of titanium tubing, and lists the sizes and tempers in which this tubing can be bought.

Superior was the first company to successfully cold draw titanium in tubular form. This folder, therefore, also contains a wealth of up-to-date information on machining, heat treating, welding, brazing, etc.

Use the handy coupon below or check the return card for your free copy of this informative technical booklet.

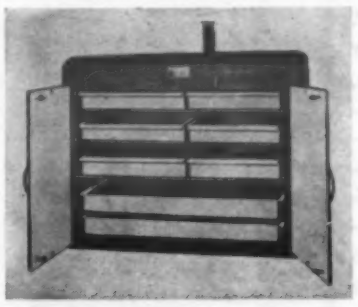
SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

Please send me at once my free copy of Bulletin 43: *Titanium—A New Member of the Family of Metals.*

Name.....Title.....
Company.....
Street.....
City.....Zone....State.....

▲ For more details circle NED-627 J5 on enclosed inquiry slip ▲

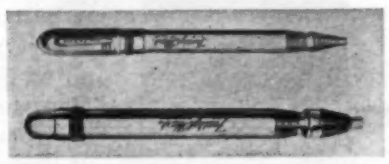
SMALL DRYING OVEN
for plastics, parts and materials



Adjustable temperatures up to 325° F can be maintained in this model PL-2A drying oven. It is suitable for heating plastics, drying parts after cleaning and dehydrating loose materials, as well as many other similar operations. Uniform temperature is maintained through the 28½ x 24 x 20⅛-in. interior by a motor driven fan that draws in damper-controlled fresh air and exhausts stale air. Oven is wrinkle finished in gray baked enamel, with plated hardware. It will accommodate eight 2 x 12 x 23-in. drying pans and operates on 110-v. Optional equipment includes additional shelves, outside reading thermometer, timer, pilot light and thermostat. Made by **Grieve-Hendry Co.**, 1408 W. Carroll Ave., Chicago 7, Ill.

▲ For more details circle NED-628 J5 on enclosed inquiry slip ▲

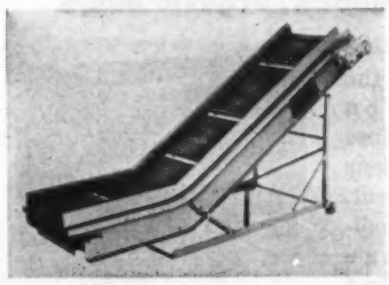
MARKING PENS
mark plastic, glass, metal and wax



Sealed ink cartridge incorporated in Feather-Mark felt-tipped marking pen releases the marking liquid automatically after the cartridge is inserted in the pen. The user does not touch the ink itself during the 10-second filling operation. Two sizes are made for lettering, posters, labeling and package and equipment marking. Any width line can be made on such surfaces as plastic, wax paper, metals and glass. It is offered in an Automatic model for heavy duty use and in the handy Artful pocket-clip model. Made by **Feather-Mark Products Co.**, Dept. NE 955, 175 Water St., New York 38, N. Y.

▲ For more details circle NED-629 J5 on enclosed inquiry slip ▲

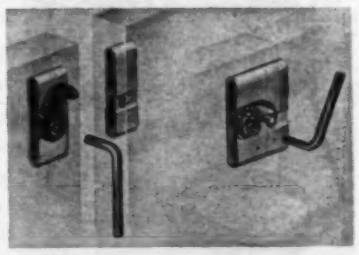
BENT CONVEYORS
line has steel wire mesh belts



Lower end of the Campbell - Veyor bent conveyor can be adjusted from 8 to 20 in. above the floor when conveying heavy, sharp, awkward, hot or cold materials. Height of upper end ranges from 32 to 72 in., depending upon length of the conveyor. The incline is 30 degrees from flat. Standard sizes are 60, 90 and 120 in. long with 8, 12, 16 and 20-in. wide steel wire mesh belts having 6, 9, 13 and 17-in. wide carrying cleat. Flat end is available in 18, 24 and 30-in. lengths. Various steel belt weaves and cleats are offered. Conveyor has swivel casters at one end and is available with motors for all standard voltages. Made by **Campbell Machines Co.**, Dept. NED, 18634 Fitzpatrick, Detroit 27, Mich.

▲ For more details circle NED-630 J5 on enclosed inquiry slip ▲

PANEL FASTENER
positive-locking for structural use



Panel fastening of demountable buildings, shipping containers, aircraft cowlings, sheet metal guards and other butt-joint assemblies is provided by this Dual - Lock high - load, positive-locking, structural fastener. It is easily installed in recess in panel, or it can be surface mounted on sheets, panels or assemblies. Trigger action assures full-open and locked-closed operation so that it is vibration and impact-proof. Double-acting take-up insures heavy closing pressure so that pressure-tight seal is formed when gaskets are used. It withstands 7000-lb tension, and can be modified for light-load applications. Made by **Simmons Fastener Corp.**, 1757 N. Broadway, Albany 1, N. Y.

▲ For more details circle NED-631 J5 on enclosed inquiry slip ▲

RECORA Switchmat

. . . thin, mat-like pressure switches that close circuits whenever pressure is applied to any point in their area; open circuits when pressure is released. Widely used as "area switches" on floors and platforms for automatic door openers, alarm systems, traffic controls etc. Used around machinery for foot switches, safety stations and emergency cut-outs. Available in any size, shape or quantity, for integral, built-in parts of mechanisms, devices and systems.

Operate at pressures from few ounces up, on low voltage, directly connected or through relays. Hermetically sealed between sheets of wear, acid and oil resistant vinyl plastic. Standard units, or to your specifications. Technical service supplied; just send us your switch problems.

Catalog Sheet CS 37 describing Recora Switches and control accessories sent upon request.

The RECORA Co. 37 W. 103RD STREET CHICAGO 28, ILLINOIS

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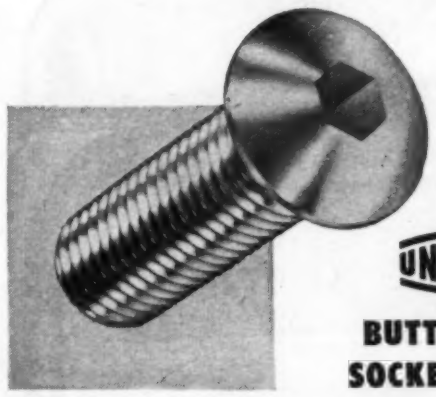
save with standard



UNBRAKO

BUTTON HEAD SOCKET SCREWS

BUTTON HEAD FEATURES

designed for applications where countersinking is not practicable

heat treated alloy steel for strength

low head height for streamlining designs

accurate hex sockets for nonslip drive and freedom from marred heads or mutilated work

fully formed threads—Class 3 fit

Save time and money by using standard UNBRAKO Button Head Socket Screws. Stocked in standard sizes—#8 through ⅝"—by your authorized UNBRAKO industrial distributor. Ask him for Bulletin 856. Or write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

UNBRAKO SOCKET SCREW DIVISION sps JENKINTOWN PENNSYLVANIA

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For the Facts on

Hydraulic Cylinders

Send for Bulletin No. 100

Bulletin 100 contains complete details on Automation Products' precision-built hydraulic cylinders for pressures up to 2000 p.s.i., mounting dimensions and important engineering information. Write today for your copy. For information on air and fluid power cylinders up to 1000 p.s.i. write for Bulletin 200.

AUTOMATION PRODUCTS FOR INDUSTRY AIR & HYDRAULIC POWER COMPONENTS

Automation Products Division
BILL-DEE CORP.
Automation Air & Hydraulic Cylinders
411 CRYSTAL LAKE ROAD • McHENRY, ILLINOIS

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DU PONT

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NEOPRENE

THE RUBBER MADE BY DU PONT SINCE 1932

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. . . naturally it's

AMERICAN MONORAIL

This American MonoRail Monotractor unit, recently installed in a rug and carpet warehouse, dispatches hard to handle, big bulky loads over a wide area. Fully automatic, with finger-tip control, with a hoist capacity of 1,000 pounds, this installation is SAVING 200 MAN HOURS PER WEEK. This is another of the many examples of American MonoRail engineering for low-cost, efficient overhead handling. Let your American MonoRail representative explain the versatility, low cost and low maintenance of American MonoRail equipment. Consultation in connection with any handling problem is available without obligation.

AMERICAN MONORAIL COMPANY
OVERHEAD HANDLING EQUIPMENT
13116 ATHENS AVENUE • CLEVELAND 7, OHIO
[IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.]

▲ For more details circle NED-636 J5 on enclosed inquiry slip ▲

The D-A Little Professor says—

"D-A SPONGE RUBBER SPEEDS PRODUCTION OF TITUS AIRFOIL OUTLETS"

Photo above shows one of the many *Airfoil* air conditioning outlets made by Titus Manufacturing Corp., Waterloo, Iowa. Titus uses Durkee-Atwood sponge rubber gasketing for three reasons: (1) It's supplied in exact sizes needed, (2) It installs easily . . . giving proper insulation, sealing and cushioning . . . and (3) It's tough . . . helping to hold some styles of *Airfoil* units in ducts without screws.

The Little Professor Says . . . "Let us send you samples of DOR-TITE for your product application."

DOR-TITE SPONGE RUBBER STRIPPING—Easy application, comes in exact widths and thicknesses needed . . . requires no trimming. Factory-processed, wet-type adhesive back. No solvents needed to activate adhesive. Dry-back, solvent activated type also available. Patented non-stretch fabric back material eliminates creeping.

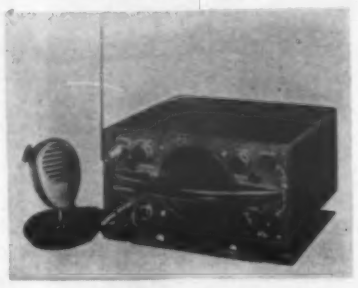
BULK SPONGE—Uniform cellular structure eliminates waste in re-working. Comes in 36" width. In three densities—soft and medium (3/32" to 1" thick) and firm (3/32" to ½" thick).

WRITE DEPT. NE-9

DURKEE-ATWOOD CO.
MA 0441 Minneapolis 13, Minnesota

▲ For more details circle NED-637 J5 on enclosed inquiry slip ▲

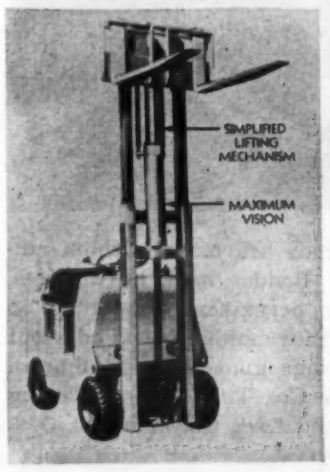
TWO-WAY RADIO TELEPHONE
for mobile industrial equipment



Vehicle, mobile industrial equipment, aircraft or base station applications of this model J Pak-Fone two-way radio telephone are feasible because it operates from 6, 12 or 24-v dc or 115-v ac sources without a separate power supply. Measuring only 10 x 9 x 5 in., it can be mounted easily in any position. Transfer from vehicle to other use is accomplished in 2 minutes, so that a single radio can serve several purposes. Loud speaker and power supply are built in. Microphone, antenna and mounting frame are standard equipment. Pak-Fones carry FCC and Civil Defense designations and operate in 25-50 mc and 145-174 mc bands. Made by **Industrial Radio Corp.**, 426 N. Parkside Ave., Chicago 44, Ill.

▲ For more details circle NED-638 J5 on enclosed inquiry slip ▲

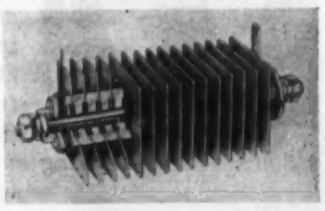
FORK LIFT TRUCKS
models with high free lift mast



Optional high free-lift mast for high stacking in box cars and other low ceiling areas is now available on Towmotor fork lift truck models LT-35, 500, LT-50, LT-56 and 500-P. It was previously available on models 390, 420, 460 and 400-P. and can be obtained on corresponding LP gas and diesel models. Installation does not reduce the truck load capacity nor increase the load lever arm. Entire high free-lift mast is interchangeable with the standard mast for field installation. Made by **Towmotor Corp.**, 1219 E. 152nd St., Cleveland 10, O.

▲ For more details circle NED-639 J5 on enclosed inquiry slip ▲

SELENIUM POWER RECTIFIERS
designed for special applications

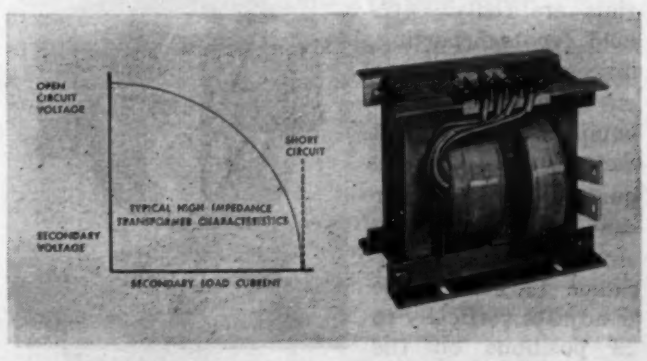


Radiation detection equipment, magnetic amplifiers, electrostatic air cleaners and laboratory and test purposes are among applications for line of selenium power rectifiers. Cells range in physical size from 1 x 1 in. to 5 x 6 in., and with convection cooling, are rated from 0.180 to 10.0 amp per cell on a single-phase full-wave bridge basis. Bolt, bracket, stud or eyelet construction is available. Featured "solid stack" assembly has all mounted parts under constant pressure. Made by **Westinghouse Air Brake Co.**, Union Switch & Signal Div., 1805 Braddock Ave., Pittsburgh 18, Pa.

▲ For more details circle NED-640 J5 on enclosed inquiry slip ▲

HIGH IMPEDANCE TRANSFORMERS
designed for current limiting use

Capacities of 10 va to 25 kva are available in line of high impedance transformers for current limiting applications. They provide a high starting voltage



for electrical equipment that requires a low operating voltage. Equipment is protected against the high initial current. Applications include electronic filament tubes, lamps, arc welders, high impedance tube circuits and rectifiers. Made by **Nothelfer Winding Laboratories**, 112 Albermarle Ave., Trenton 3, N. J.

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use Hanna Valves for exacting CONTROL

Hydraulic and pneumatic cylinder performance is dependent on the efficiency of the control valves used. That's why it pays to use Valves made by a leader in cylinder manufacture. For more than fifty years, the Hanna name has been synonymous with quality. With Hanna Valves, you have a selection to meet every cylinder operating need, plus the advantages of Hanna engineering services. Get your local Hanna Representative's name from your classified telephone directory or write for complete Valve data.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT • CYLINDERS • VALVES • CONTROLS
1759 ELSTON AVENUE • CHICAGO 22, ILLINOIS

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NEW DESIGNED BY BOSTON Gear to give you Certified MAXIMUM HORSEPOWER PER DOLLAR — by actual test

- 20% Less space . . . less weight
- Higher gearing efficiency
- Finned housings for better cooling
- Fan cooling optional on larger sizes

100 SERIES REDUCTORS RATIOMOTORS

NEW COMBINATION Construction

Permits removal of motor at any time without disturbing gear unit. Also, original motor may be easily replaced with one of special characteristics (explosion-proof, etc.). Saves on maintenance and extends range of applications.

FLANGED REDUCTORS

are Ratiomotors without motors. You buy and install standard end-mounted motors of your own choice.

108 MODELS • 671 DIFFERENT UNITS FROM STOCK

GET NEW CATALOG R-56 FROM YOUR

BOSTON Gear DISTRIBUTOR

or write: BOSTON GEAR WORKS 69 Hayward St., Quincy 71, Mass.

55BG-R-291

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Welding with NI-ROD "55" saves cost of new casting

This fork lift truck was *almost* scrapped. Two cast iron lugs supporting its tilt shaft had broken. A *new* casting would cost $260. But with NI-ROD "55" welding electrodes complete repairs cost only $65!

It's easy to produce strong, sound welds with NI-ROD "55". Gives stable arc, smooth bead contour. Choice of A.C. or D.C., too. And *9 out of 10 times* no preheat or postheat is needed.

Simplify your cast iron welding with NI-ROD "55"® and NI-ROD® (for thinner sections). Order a package today. And write Inco for the new folder, "Repair Cast Iron Parts Quickly and Easily." It gives facts about the success others have had with these electrodes.

THE INTERNATIONAL NICKEL COMPANY, INC.
69 Wall Street New York 5, N. Y.

INCO Welding Products Electrodes • Wires • Fluxes

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Set 2 to 6 Nuts at Once

KELLER

MULTIPLE NUT SETTER

INDIVIDUAL TORQUE ADJUSTMENT built into each air-powered drive unit.

TORQUE CONTROLLED ACCURATELY within extremely close tolerances.

COMPACT DESIGN permits close spacing for closely clustered bolts.

MOUNTING PLATES can be made up as needed to fit new bolt patterns.

Send for Bulletin 12

KELLER TOOL
DIVISION OF GARDNER-DENVER
GRAND HAVEN, MICH.

▲ For more details circle NED-645 J5 on enclosed inquiry slip ▲

How to check precision gears quickly, conclusively, to closest tolerances

With the Kodak Conju-Gage Gear Checker, you pass every right gear, reject every wrong gear—check tooth-to-tooth composite error of .0002".

The revolutionary Kodak Conju-Gage Worm Section, used with both spur and helical gears, provides a new standard of gage precision, combines accuracy with economy. Results are recorded automatically for permanent reference.

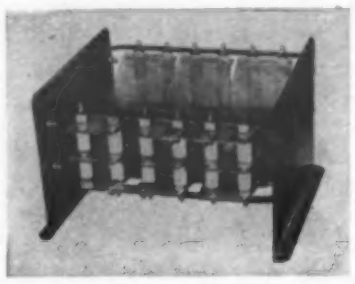
Write for a copy of the booklet, "Kodak Conju-Gage Gear Testing Principle," which shows how Conju-Gage Instrumentation can help solve your precision gear problems.

Special Products Sales Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak CONJU-GAGE INSTRUMENTATION

▲ For more details circle NED-646 J5 on enclosed inquiry slip ▲

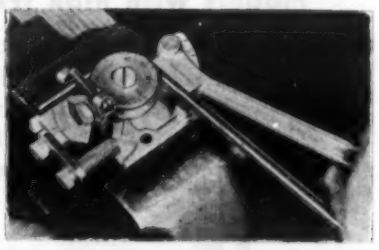
WIRE GRID RESISTORS
have high heat-dissipating capacity



High-current electrical resistors formed of self-supporting wire screen have current-carrying wires of Nichrome. Wire screen is brazed to large copper terminals. As the resistance wire is virtually suspended in free air with no obstruction to impede flow of cooling air, the heat-dissipating capacity is very high. V-shaped wire screen is designed to permit expansion and contraction with only minor forces exerted on the insulators. Resistors are produced in complete grid bank assemblies, either open or enclosed, in 31 standard current capacities from 32 to 126 amp. Made by **Schaefer Bros. Co.**, 1059 W. Eleventh St., Chicago 7, Ill.

▲ For more details circle NED-647 J5 on enclosed inquiry slip ▲

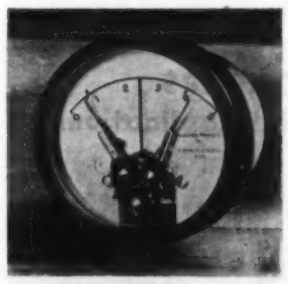
TUBE BENDING TOOL
two sizes handle 1/4 and 3/8-in. tube



Nonslip bending of 1/4 and 3/8-in. diameter stainless, steel, copper, brass or other tubing is readily performed with this Tork-grip manual tube bending tube. Clamp grips tube firmly, and bends are made without collapsing or flattening tube. Bender, made in two sizes, can be used in a vise or permanently mounted on bench. It can also be used for making bends adjacent to fittings. Radius markings guide degree of bend. Made by **Parker Appliance Co.**, Tube & Hose Fitting Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

▲ For more details circle NED-648 J5 on enclosed inquiry slip ▲

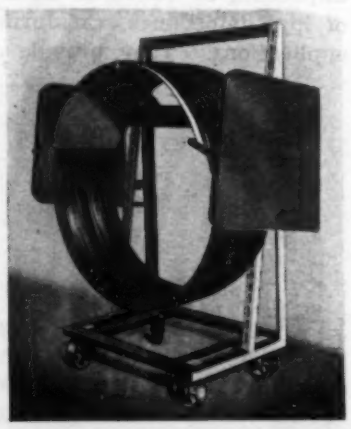
METER-RELAY
contacts rated 5-25 ma, 75-125 v dc



Trip or control on model 255-C meter-relay can be adjusted from the front to any point on the scale. High limit, low limit or double (high and low) contact arrangements are available. Sensitivity ranges are from 0/20 microamperes to 0/50 amp, or 0/5 mv to 0/500 v. Extra winding on meter element gives locking action to contacts which are separated by spring when locking coil releases. Platinum alloy contacts have life of over 10 million operations and are rated 5-25 ma, 75-125 v dc. Other ratings can be supplied. Meter is accurate to 2 per cent; contact repeatability is 1 per cent. Dimensionally this model is interchangeable with regular 2½-in. round meter. Case is sealed and movement is internally shock mounted. Made by **Assembly Products, Inc.**, Wilson Mills & County Line Rds., Chesterland, O.

▲ For more details circle NED-649 J5 on enclosed inquiry slip ▲

COIL HANDLING RACK
mounted on ball bearing wheels



Wire, chain, rope, rod, hose and similar materials are conveniently held for transporting, processing and storage on this Ver-T-Rack equipped with a coil hanger and two coil guards. Coil hanger can be furnished in any size and with any radius to suit needs. It adjusts vertically to 23 positions on the mobile rack. Guards control stock and are safety feature. Coils are easily moved around the plant, compactly stored between processing operations or held conveniently at the machine or station where stock is to be processed. Made by **Vince Basnik Co.**, Dept. N, 2020 Center St., Cleveland 13, O.

▲ For more details circle NED-650 J5 on enclosed inquiry slip ▲

Do the job BETTER with SQUARE D Pneumatic Timers

Whether your requirements call for A.C. or D.C., these Square D design features deliver the most in consistent and accurate performance

Wide Range • Time delay period easily adjusted over a period of 0.2 seconds to 3 minutes in an infinite number of steps.

Easy Adjustment • Finger tip adjustment of timing period can be made simply by rotating a knurled knob or a micrometer dial.

Repeat Accuracy • Less than 10% variation from the mean timing period. Accurate timing, even under abnormal ambient temperature conditions.

Write for Bulletin 225. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

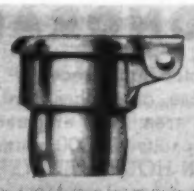
▲ For more details circle NED-651 J5 on enclosed inquiry slip ▲

Here's How

GITS

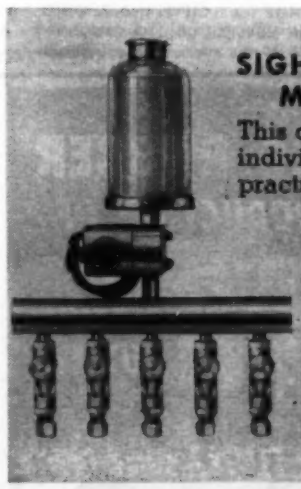
Provides

Low-Cost Replacement Of YOUR Lubricating Devices



OIL HOLE COVERS

This model is designed to fit into a simple drilled hole. Ideal for use on small motors, generators, starters and light machinery—for dependable oil hole protection at moderate cost. Larger sizes frequently used as filler caps on tanks or reservoirs. Style R—No. 305.



SIGHT GRAVITY FEED MULTIPLE OILERS

This one unit replaces 3 to 8 individual oilers. Maximum practicality in a small central lubrication system. Positive cut-off during idle periods. Individual vibration-proof needle valve adjustments. With solenoid control (Illustrated): Style MDS—No. 4685-A. Without solenoid: Style MD.

Too much machine "down-time"? Too much time wasted in servicing your machinery? Perhaps some old, worn lubricating devices need replacement. Maybe a different, more modern device will do the job more efficiently. Whenever you replace, specify GITS Lubricating Devices—the widest selection available anywhere, right in stock. The items pictured above are only a few of our many thousands of lubricating devices. Send NOW for your free Catalog.

GITS BROS. MFG. CO.
The Standard For Industry For Almost Half A Century
1833 South Kilbourn Avenue
Chicago 23, Illinois

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• **Simple operation**—positive, dependable valve action.
• **Simple installation**—no special piping or supports.
• **Simple maintenance**—no tricky adjustments or re-adjustments; no big inventory of valves and seats.

Before you specify, check Nicholson. Write for *Catalog 953.*

W. H. NICHOLSON and Company
TRAPS • VALVES • FLOATS • METAL PARTITIONS
14 Oregon Street, Wilkes Barre, Pa. • Sales and engineering offices in 58 principal cities

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Lightweight HELIARC TORCH

is water-cooled...

FOR EFFICIENT INERT GAS WELDING AT LOW COST

You can make high quality welds every time with this lightweight, 300 amp. HELIARC HW-10 torch. Both the torch body and power cable have all-internal water-cooling for cooler operation even when welding continuously at full capacity. Yet cleaning is easy for all water passages are straight. Electrode adjustment is quick and simple, too. No wrenches needed. And electrode stub loss is minimized by an improved water-cooling system. Call your nearest LINDE representative today for more details on the HELIARC HW-10 torch.

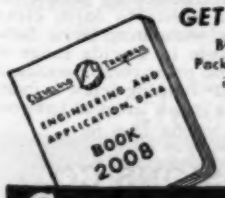
LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities
In Canada: UNION CARBIDE CANADA LIMITED, Toronto

The terms "Heliarc" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-654 J5** on enclosed inquiry slip ▲

SAVES $7000 PER YEAR with AUTOMATIC TRAMRAIL SYSTEM

An enclosed freight carrier shuttling over a 666-foot Cleveland Tramrail track between two buildings is saving $7000 per year. The system has eliminated a drudgery disliked by labor and costly to management. No more manual pushing of heavy loads. No longer is work held up because of inclement weather. Handling accidents are done away with. Automatic Tramrail offers big dividends on your investment.



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BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6650 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

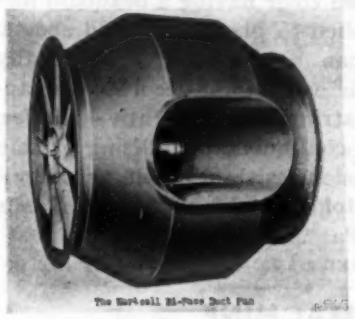
▲ For more details circle **NED-655 J5** on enclosed inquiry slip ▲

ELECTRICAL IMPULSE COUNTER
manual pushbutton or electric reset

Sodeco Ti series electrical impulse counters can be preset to any number up to 99999, then sealed to prevent tampering. Either manual pushbutton or electric reset is offered. Counter can be furnished for flush or surface mounting, will count up to 12 impulses per second and has a power requirement of 0.8 to 3 w. If desired, it will automatically reset to the original preselected figure at the end of each counting cycle. When the counting cycle is completed a built-in secondary contact can be actuated. Announced by **Landis & Gyr, Inc.**, Dept. N, 45 W. 45th St., New York 36, N. Y.

▲ For more details circle **NED-656 J5** on enclosed inquiry slip ▲

DUCT FAN
motor is shielded from air stream


The Hartzell Bi-Pass Duct Fan

Motor is mounted in tunnel completely out of air stream in this direct - connected Bi-Pass duct fan designed for use with ovens and oil and gas-fired induced - draft boilers. Standard model HN will operate to 300° F so long as motor tunnel is in ambient of not over 95° F. This unit uses an open-end motor and an aluminum propeller. Heavy-duty, high-temperature model HXN features well insulated motor chamber and will operate to 450° F with an aluminum propeller. With heat slinger and Monel or stainless propeller, unit will operate up to 550° F. Available diameters are 25, 29 and 37 in. Corrosion-resistant materials and coatings can be specified if fan is to move corrosive fumes. Made by **Hartzell Propeller Fan Co.**, Dept. G, 1025 Roosevelt Ave., Piqua, O.

▲ For more details circle **NED-657 J5** on enclosed inquiry slip ▲

LAPPING MACHINE
is automatic for super-fine finishes

Completely automatic lapping for production of super-fine finishes on small and medium size parts is possible with the Gyromatic "21" lapping machine. It incorporates an adjustable eccentric motion, duplicating the figure-8 movement used in precision hand lapping. Flatness of one light band or less is produced. Parts removal and insertion is fast and easy. The abrasive compound tank is removable for ease of cleaning. Built-in agitator keeps the abrasive grit in uniform suspension. Made by **Spitfire Tool Co.**, Dept. NED, 2931 N. Pulaski Rd., Chicago 41, Ill.

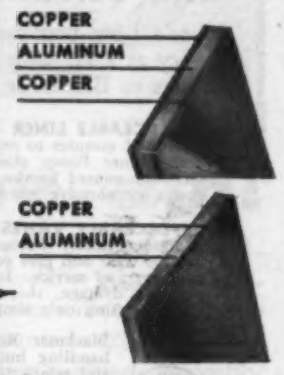
▲ For more details circle **NED-658 J5** on enclosed inquiry slip ▲

SMOKELESS SALAMANDER
produces 175,000 Btu per hour

One gallon of fuel burned in the Nu-Danco smokeless salamander produces 175,000 Btu per hour. Unburned material and partially consumed gases rise up and out of the top of the integral circulator, then are down-drafted back and up again through the flames. Smoke, soot, fumes, gases and unburned material are forced through the flame with resultant elimination of smoke, high efficiency and low fuel cost. Salamander is made of heavy gage galvanized steel. Made by **C. R. Daniels, Inc.**, Dept. N, Daniels, Md.

▲ For more details circle **NED-659 J5** on enclosed inquiry slip ▲

ALCUPLATE®
The Material of 1001 USES
Replaces Strip Copper or Brass at Savings up to 30%



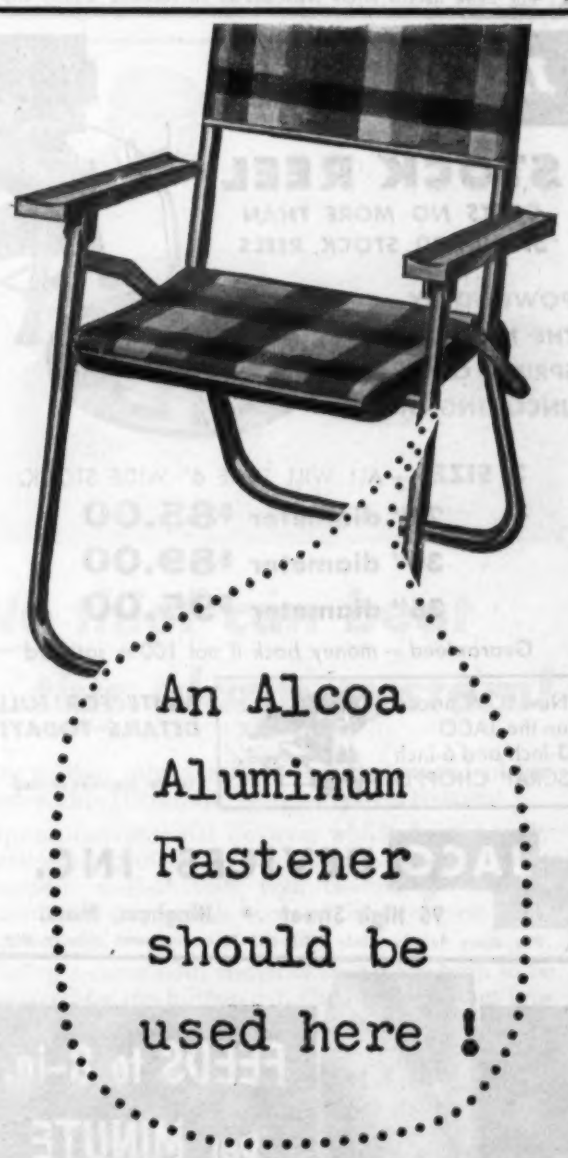
HERE'S THE STORY:
Alcuplate was developed by General Plate to reduce the raw material costs for manufacturers using strip copper or brass.

A composite metal, Alcuplate is a solid layer of copper permanently bonded on one or both sides of less expensive aluminum. This combination has practically the same physical and electrical properties of copper . . . but reduces copper or brass costs by as much as 30%.

ALCUPLATE®
METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
89 FOREST ST., ATTLEBORO, MASS.

ALCUPLATE FEATURES
• Natural copper appearance
• High electrical conductivity
• Excellent heat dissipation
• Soft-soldering surfaces
• Easy fabrication
• Light weight

▲ For more details circle **NED-660 J5** on enclosed inquiry slip ▲



It's an aluminum chair assembly, worth the lasting strength of Alcoa® Aluminum Fasteners. You avoid galvanic and atmospheric corrosion. You get perfect color match; you get the very highest quality product. Your local Alcoa distributor has a complete stock.

P.S. For this chair assembly, we suggest an aluminum machine screw, washer and nut from Alcoa's complete line of aluminum fasteners.

ALUMINUM COMPANY OF AMERICA
2245-J Alcoa Building, Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of your aluminum fasteners.

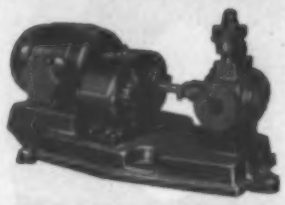
Name _____
Title _____
Company _____
Address _____

Always Fasten Aluminum with Alcoa Aluminum Fasteners

▲ For more details circle **NED-661 J5** on enclosed inquiry slip ▲

"NEW PUMP" PERFORMANCE

after years of service



with BLACKMER rotary pumps

Here's how you can restore "new pump" efficiency at a fraction of the cost of a new pump, thanks to Blackmer engineering and design.

REPLACEABLE LINER It takes only a matter of minutes to replace the liner of a Blackmer Pump after excessive wear has been caused by the handling of corrosive or abrasive materials.

REPLACEABLE VANES The vanes in Blackmer Rotary Pumps are self-adjusting for wear and give sustained efficiency over years of service. In case of extreme wear or damage, they can be replaced quickly, using only simple hand tools.

Blackmer Rotary Pumps are handling hundreds of liquids and semi-solids successfully.

liquid materials handling ®

BLACKMER

Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.

DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO • GRAND RAPIDS • DALLAS • WASHINGTON • SAN FRANCISCO

See Yellow pages for your local sales representative

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JACO LOW COST AUTOMATIC

STOCK REEL

COSTS NO MORE THAN STANDARD STOCK REELS

POWERED BY THE NATURAL SPRING OF UNCOILING STOCK

3 SIZES — ALL WILL TAKE 6" WIDE STOCK

24" diameter $85.00

30" diameter $89.00

36" diameter $95.00

Guaranteed — money back if not 100% satisfied

New LOW prices on the JACO 3-inch and 6-inch SCRAP CHOPPER

WRITE FOR FULL DETAILS TODAY!

Dealer Inquiries Invited

JACO DEVICES, INC.

95 High Street • Hingham, Mass.

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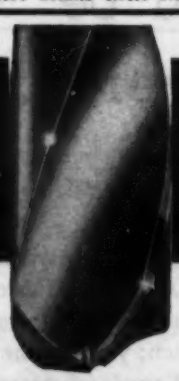


FEEDS to 8-in. per MINUTE

WITH FASTER CUTTING MORE DURABLE SUPER CARBIDE DRILLS

Super Carbide Drills are *faster cutting*, because our special v-ground point breaks up metal structure easier, acts like a lead hole to permit a bigger bite. The tip blends into the spiral and flutes are polished to provide easier chip relief, less friction — for *cooler cutting, longer life*. And, the Super's radial-ground relief *reduces fractures*. Heavier carbide tip *cuts breakage*, provides *more regrinding stock*. Heavy land and web provide *much greater strength*. Easy to understand why Super Drills can maintain *feeds up to 8" per minute* (cast iron) and pare downtime losses.

This improved drill design is stocked by leading tool supply houses in every industrial area, in fractional, wire or letter sizes, with straight or Morse taper shanks and in eight types, solid carbide or tipped.

WRITE *NOW* FOR FREE, NEW 92-PAGE CARBIDE TOOL CATALOG

Super TOOL COMPANY

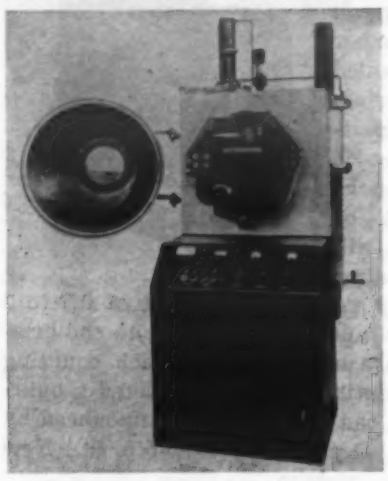
SUPER TOOL CO.

DEPT. NO. 360 21650 HOOVER RD. • DETROIT 13, MICHIGAN
5210 SAN FERNANDO RD. • LOS ANGELES 3, CALIF.

▲ For more details circle NED-664 J5 on enclosed inquiry slip ▲

CONTINUOUS VACUUM METALLIZER

applies metallic coating to plastic, fabric and metal film and sheeting



Plastic, paper, textile fabrics, thin steel and other film and sheet materials can be given a metallic coating on a production basis with this single-chamber continuous roll vacuum metallizer. Units have only a single vacuum chamber so that minimum of vacuum pumping equipment is required, and compact design is possible. It will handle material in widths of 6, 24, 36, 48, 54 or 60 in. at speeds up to 500 fpm. Up to 24-in. diameter rolls of 0.005 to 0.0020-in. thick material can be successfully coated on a continuous basis.

Practically any desired color having a beautiful metallic effect can be applied to plastic film and sheets. Other products that can be produced economically are condenser paper for capacitors, decorative wrapping papers, metallic string and decorative fabrics. Under consideration is continuous metallizing of thin sheet steel with a corrosion resistant coating of aluminum. Made by **F. J. Stokes Machine Co.**, 5900 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle NED-665 J5 on enclosed inquiry slip ▲

STRAP BANDING MACHINE

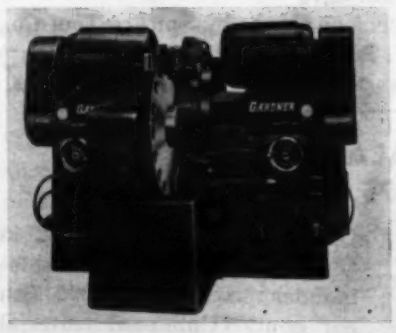
all operations are automatic

Packages of varying sizes can be strapped and sealed by the Autobinder automatic strap banding machine. Electrically powered, it applies and tensions the strap, makes and crimps the seals and cuts the strap. The operator controls the operation with one lever. Depending upon the package size, the machine will make up to 1000 ties per hour. Different sizes and contours can be banded without adjustment. Strapping tension is easily adjusted. The 31-in. high machine has a reel for dispensing the ⅜ x 0.015-in. steel strapping. Installation can be in a production line for banding packages with a minimum width of 7 in., and measuring up to 22 x 20 in. Made by **A. J. Gerrard & Co.**, 1954 N. Hawthorne Ave., Melrose Park, Ill.

▲ For more details circle NED-666 J5 on enclosed inquiry slip ▲

DOUBLE DISK GRINDER

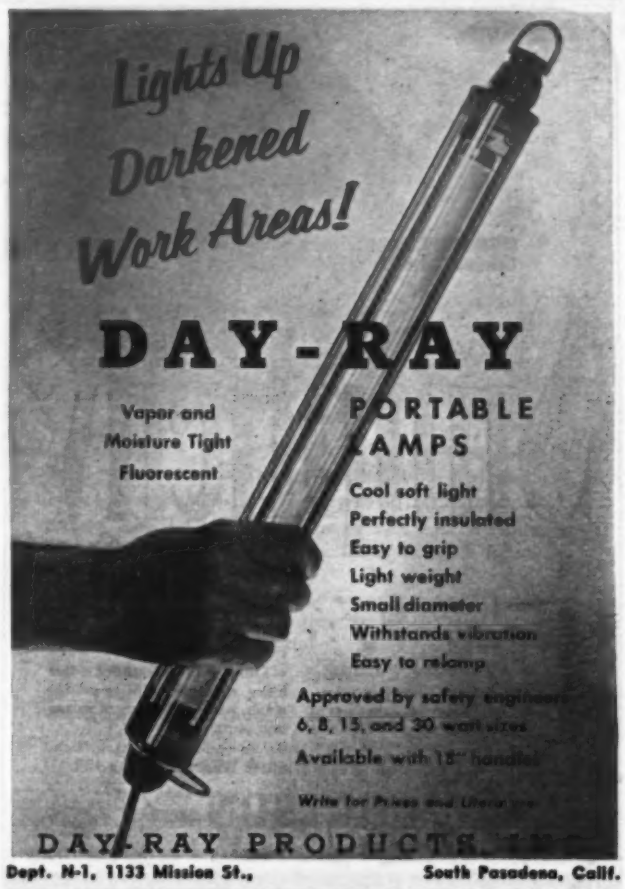
grinds two parallel flat surfaces on hopper-fed parts automatically



High production grinding of parallel flat surfaces with high precision and uniformity is possible with the 2H30 double disk grinder. The 30-in. machine can grind pump gear blanks at a rate of 885 parts per hour. Parts are automatically loaded by a Feed-all hopper feeder, ground in a rotary work carrier, automatically sized, then automatically unloaded. Stock removal from blanks is 0.010 to 0.018-in., with tolerance of 0.0003 to 0.0005-in. for flatness and parallelism and 0.001-in. for uniformity.

The 18-station work carrier has a variable speed setting. Automatic size control is by means of a Sheffield air gaging system. Grinder features rigid spindle, stable ways and head zeroing indicator that simplifies tilt and swivel setup for adjustment. Coolant reservoir is located in machine bed. Made by **Gardner Machine Co.**, 460 E. Gardner St., Beloit, Wis.

▲ For more details circle NED-667 J5 on enclosed inquiry slip ▲



Dept. N-1, 1133 Mission St., South Pasadena, Calif.

▲ For more details circle NED-668 J5 on enclosed inquiry slip ▲

PROTECT EXPENSIVE GAGES

SPRAGUE SHUT OFF VALVES automatically cut out gages and other pressure-sensitive instruments when fluid pressures go beyond their operating limits. Automatically open when pressure is again within approx. 80% of set cut-out points. Available for any pressure setting between 10 PSI. and 5000 PSI. Save valuable man hours. Eliminate opening and closing manually operated shut off valves. Supplied with standard pipe thread connections, also available with AN tube fittings. Body is 1½" aluminum hexagon stock. Length 5½". Bronze or stainless steel bodies also available. Easy to install. Thousands in use. Write for bulletin.

SPRAGUE Engineering Corporation

1144 WEST 135TH STREET, GARDENA, CALIFORNIA

▲ For more details circle NED-669 J5 on enclosed inquiry slip ▲

HOW TO SELECT TAPPING SCREWS

The type Tapping Screw you require will vary with: 1. kind of material; 2. thickness of material; 3. the method used for making the hole.*

Lamson Tapping Screws are precision made for maximum holding even in thin material, fully hardened to permit the thread crests to form clean threads without strippng hole. Available in a wide range of head and point combinations. A "special" Tapping Screw to many . is a "stock" item at Lamson.

**This information is available in tabular form for easy reference. Write for as many copies as you need.*

The LAMSON & SESSIONS CO.

1971 West 85th St. • Cleveland 2, Ohio

CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

▲ For more details circle NED-670 J5 on enclosed inquiry slip ▲

NEW
POST-FORMING GRADE
OF C-D-F
DILECTO

- Non-After-Glow characteristic
- Excellent mechanical strength
- Resists abrasion, has long life
- A canvas-based laminate
- Post-Forms to shapes in inexpensive cold molds
- Easily machined and punched

The new C-D-F "Post-Forming" Dilecto CF-1 can be formed easily and inexpensively with molds made from hard wood, cast or laminated plastics, steel and metal alloys. Complies with the SAE-Aeronautical Material Specification AMS-3605, latest revision. It can be furnished in sheets from 1/32" to 1/4" thicknesses.

Also new! SILICONE GB-SF post-forming Dilecto for high heat insulation.

C-D-F's sales engineers (offices in principal cities) will cooperate with designers and production engineers to form and fabricate Dilecto to individual specifications. Write for technical bulletins describing Dilecto CF-1 as well as other grades of Post-Forming Dilecto.

THE NAME TO REMEMBER FOR POST-FORMING DILECTO LAMINATED PLASTICS

CDF Continental-Diamond Fibre

CONTINENTAL-DIAMOND FIBRE DIVISION OF THE BUDD CO., INC.
NEWARK 30 DELAWARE

▲ For more details circle NED-671 J5 on enclosed inquiry slip ▲

NEW Screw Machine Has 6 Radically New Features

This really different, completely new single spindle automatic screw machine offers you these 6 really new features:

1. Three pre-set independent cutting speeds; adjustable and reversible.
2. A three-position crank permits long, medium, and short work to be produced with equal efficiency.
3. Heavy section cross slides and direct cam activation assure closest forming tolerances.
4. Lead cam is fully visible, easily accessible. Open front and large tooling space simplify tool set-ups and operation.
5. Sturdy, one-piece, cabinet type construction. High walls give protection against oil splash.
6. Large, deep, open-end chip well permits cleaning during operation. Overload safety throw-out is handy at end of turret unit.

NOW ON DISPLAY — Write for name of nearest dealer. Send for Latest Literature

A Product of
THE GEAR GRINDING MACHINE COMPANY
3925 Christopher • Detroit 11, Michigan

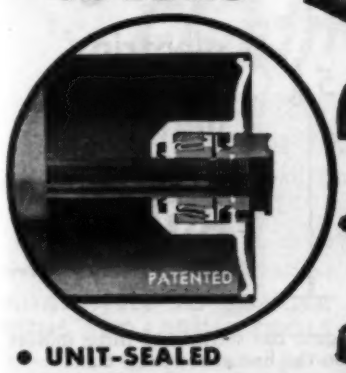
DETROIT Screw Matic 236

▲ For more details circle NED-672 J5 on enclosed inquiry slip ▲

Specify CONTINENTAL

UST IDLERS

Standard Duty Idler



Rubber Disc Impact Idler

Rubber Disc Return Idler

Self-Aligning Troughing Idler

- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

Saves GREASE! Saves LABOR! Saves BELTS!
If you use belt conveyors—you need Continental Idlers!
Write for Bulletin NED-116
ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.

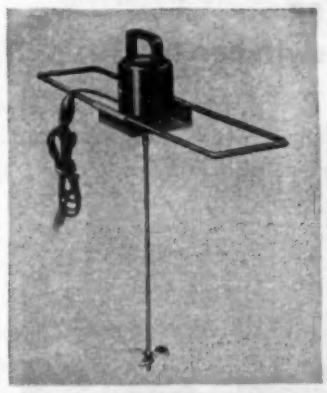
▲ For more details circle NED-673 J5 on enclosed inquiry slip ▲

PRODUCT DISPLAY TABLE
folds down into self-contained case

One man can easily handle this portable Exhib-A-Pac display kit consisting of recessed background with sloping display panel, two wing panels, headpiece, counter and wrought iron legs. Display folds down into self-contained "suitcase" as shown in inset. With product samples mounted on sloping display board, but removable for examination, unit is an excellent tool for use at sales presentations, meetings, or in training programs. It can also double as a show booth display. Overall dimensions are 7 ft 10½ in. wide, 6 ft 5½ in. high and 37 in. deep. Fluorescent light fixture is concealed at top of main background section. Made by **Gardner Displays**, 480 Melwood St., Pittsburgh 13, Pa.

▲ For more details circle NED-674 J5 on enclosed inquiry slip ▲

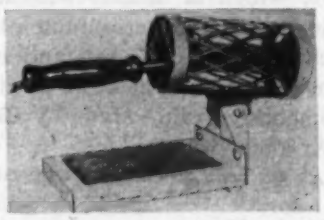
FLOAT-MOUNT MIXER
usable on deep tanks and containers



Live-rubber covered rack permits suspension of this electric mixer over any tank or container. Impeller shafts up to 42 in. long can be used for mixing fluids and light-viscosity chemicals. Master model is powered by a 1/30-hp fan-cooled motor for up to 48-gal batches, and the Standard model handles up to 5 gal. Latter has two interchangeable shafts with two and three-blade propellers. Write to **E. J. Holloway, Jr.**, Dept. P-41, 5126 Norwaldo, Indianapolis, Ind.

▲ For more details circle NED-675 J5 on enclosed inquiry slip ▲

SOLDERING IRON HOLDER
guards against contacting hot iron



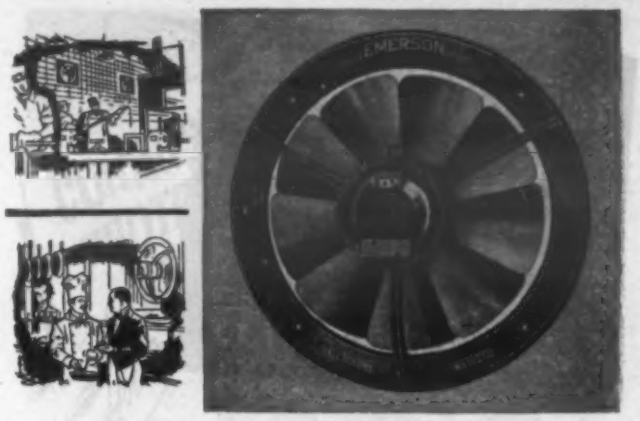
Operator is protected from accidentally touching a hot soldering iron by this No. 51 cylindrical type soldering iron holder. Tapered opening at front allows iron to enter holder at any angle. Holder will accommodate irons with heating element casing diameter up to 1¼ in. Cylinder is angularly adjustable. Holder is available with or without wiping pad attachment as shown. Without pad it can be fastened under bench, shelf, or on top of bench in any position. Made by **Wilder Mfg. Co.**, Box 906, Port Jervis, N. Y.

▲ For more details circle NED-676 J5 on enclosed inquiry slip ▲

VACUUM CLEANER
8-gal capacity explosionproof type

Underwriters' Laboratories approval for use under Class 1, Group D and Class 2, Group G hazardous or explosive conditions has been given model HL-1 explosionproof vacuum cleaner. This industrial machine will operate safely in presence of gasoline, hexane, naphtha, benzene, butane, propane, alcohols, acetone, benzol, lacquer solvent vapors or natural gas, as well as flour, starch and grain dusts. Casters, bag, hose, attachments and connecting gaskets are electrically conductive so static charges are grounded. Motor, switch and cable connections are totally enclosed. Machine has 8-gal capacity brass tank and is powered by ⅞-hp, 13,000-rpm constant-duty motor teamed with multistage fan assembly for high suction. Made by **Doyle Vacuum Cleaner Co.**, Dept. ND, 250 Stevens St. S. W., Grand Rapids 2, Mich.

▲ For more details circle NED-677 J5 on enclosed inquiry slip ▲



clear the air!

Wherever large masses of air should be cleared out, install Emerson-Electric direct-drive exhaust fans. Built in 5 sizes, 12-in. to 30-in., capacities range up to 6,700 CFM, free air. Can be mounted vertically, horizontally or at any angle—overlapping blade assembly assures unusually quiet operation—fully enclosed two-speed, ball-bearing motors. Send for Catalog No. 2031.
THE EMERSON ELECTRIC MFG. CO., ST. LOUIS 21, MO.

Emerson-Electric
of St. Louis • Since 1890

▲ For more details circle NED-678 J5 on enclosed inquiry slip ▲

No thief can beat this alarm system!

Try as they might, thieves simply cannot fool the new Kidde Ultrasonic Burglar Alarm System!

Unlike conventional devices, which furnish only perimeter protection, the Kidde system gives *complete* wall-to-wall, floor-to-ceiling coverage, guarding *every single inch* of the area you want protected!

Filling a room with waves of sound too high to be detected by the human ear, the Kidde system protects *all* of the following 5 possible points of entry!

FLOORS, WALLS AND CEILINGS! Let a thief try chopping through the floor, walls or ceiling, and he's as good as in jail. Even if a thief conceals himself in the protected area, his first move will give him away. And, if power fails or if someone tries to sabotage any of the system components, tamper-proof devices instantly sound the alarm!

WINDOWS! Forcing a window within the protected area will trigger the alarm *immediately*. Here, a thief is stopped before he starts.

DOORS! With the Kidde system on the job, the slightest opening of a door sounds the alarm immediately, stops any thief in his tracks. No way of entry here!

HERE'S HOW IT WORKS: Transmitter sends out waves of sound too high to be detected by the human ear. Receiver listens for possible disturbances of waves. If waves are disturbed in any way, electronic "brain" triggers alarm.

Operating from a standard electrical outlet, the Kidde Ultrasonic Burglar Alarm System requires no permanent, expensive wiring, can be moved from place to place with little trouble. For more information on this economical foolproof protection, send today for Kidde's Ultrasonic Alarm System Booklet.

Kidde

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Walter Kidde & Co., Inc., 824 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal—Toronto

▲ For more details circle NED-679 J5 on enclosed inquiry slip ▲

CORROSION-PROTECTED by TYGON Hot Spray PAINT

Here's long-term corrosion protection, and . . . important savings in time, labor and materials.

Tygon ATD* Hot Spray Vinyl Paint forms a tough, impermeable vinyl film that is thick, dense and free from imperfections. With a single pass of a spray gun you can build a coating five times thicker than by cold spray.

Labor is cut up to 30% and more . . . thinners are eliminated . . . wet overspray is eliminated.

All this plus the time-proven corrosion resistance for which Tygon is famous.

133-E

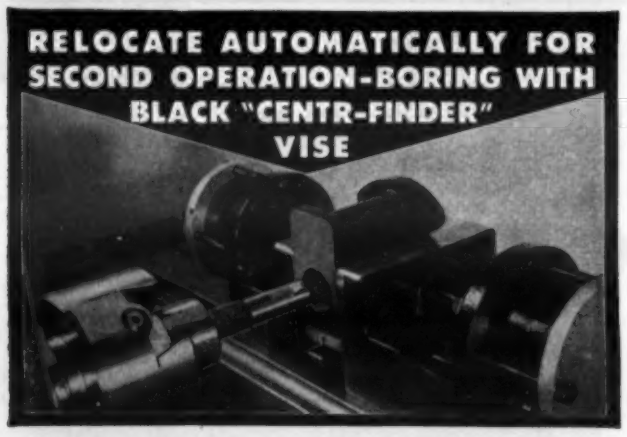
Right now . . . Write now for Bulletin ATD-34

PLASTICS & SYNTHETICS DIVISION
U. S. STONEWARE
AKRON 9, OHIO

ADHESION · THICKNESS · DENSITY

▲ For more details circle NED-680 J5 on enclosed inquiry slip ▲

RELOCATE AUTOMATICALLY FOR SECOND OPERATION-BORING WITH BLACK "CENTR-FINDER" VISE



Relocating for second operation-boring is fast and accurate with a Black "Centr-finder" vise. Locates centers and other pre-determined points within .001" vertically and horizontally, regardless of shape or size of parts. A versatile tool—for drilling, reaming, chamfering and many other operations.

Working range is 0 to 4". Clamping pressures up to 2000 pounds. Force exerted is all straight line. Vise jaws travel on guides—actuated by opposed double-acting cylinders . . . synchronized by mechanical means. No pressure exerted through synchronizing mechanism.

Get all the facts—write for bulletin.

THE BLACK DRILL COMPANY, INC.
1380 East 222nd Street • Cleveland 17, Ohio

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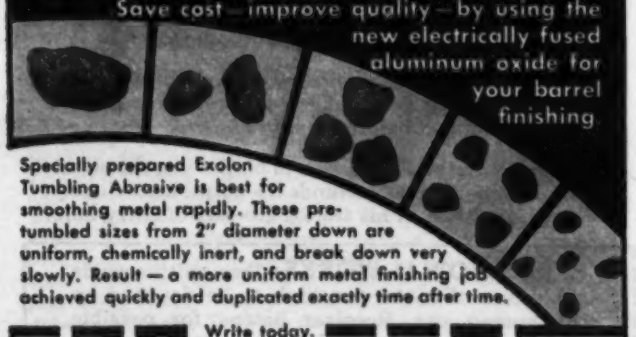
LOW COST Barrel Finishing with EXOLON

Save cost—improve quality—by using the new electrically fused aluminum oxide for your barrel finishing



Specially prepared Exolon Tumbling Abrasive is best for smoothing metal rapidly. These pre-tumbled sizes from 2" diameter down are uniform, chemically inert, and break down very slowly. Result—a more uniform metal finishing job achieved quickly and duplicated exactly time after time.

Write today.

Gentlemen: Please send
☐ Your Folder, EXOLON BARREL FINISHING ABRASIVE.
☐ Your Recommendations for the following finishing problem

Name
Address
Company
City

The EXOLON Company
986 East Niagara Street Tonawanda, New York

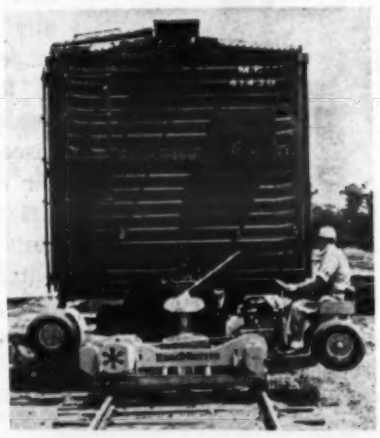
▲ For more details circle NED-682 J5 on enclosed inquiry slip ▲

HYDRAULIC GAP PRESSES
15 and 25-ton adjustable bed models

Hand-air-oil and motor-driven models are available in line of 15 and 25-ton adjustable bed hydraulic gap presses. Bed is easily raised or lowered to handle large or small jobs. Fifty-pound shop air pressure produces a ram travel of 8 ips down to the work on hand-air-oil models (illustrated) which have an air-oil internal spring return type cylinder. One stroke of the hand pump handle builds up pressure on the work. Motor operated models provide adjustable hydraulic pressure on both downward and return stroke of the ram. Control and pumping unit is on top of the press. Hydraulic gages are calibrated in pounds and tons pressure on the work. Made by **K. R. Wilson, Inc.**, Hydraulic Div., 300 Mill St., Arcade, N. Y.

▲ For more details circle NED-683 J5 on enclosed inquiry slip ▲

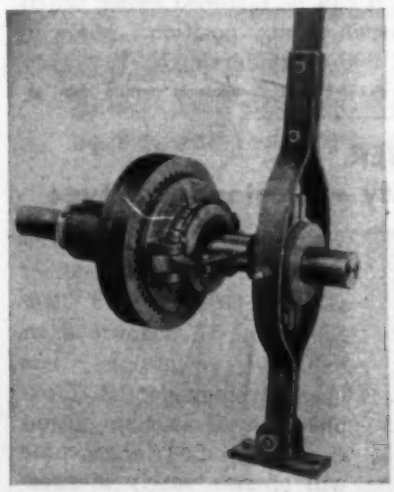
CAR SPOTTER-HAULER
is roadable car switcher



Several improvements have been incorporated in the HemcO - Motive roadable type rail car switcher. This machine utilizes the weight of the railroad car to increase its traction. New coupler gives positive connection between the switcher and the rail car. This Positive Coupler also allows the machine to couple with ease to either side. Use of a fluid drive provides ample power to start heavy loads smoothly and without sudden shock. Machine develops a draw bar pull of 7400 lb, which is usually sufficient to propel three fully loaded cars. Retractable air-cushion-tired wheels facilitate ground-to-rail and reverse movement as well as use of equipment as a utility tractor over rough or smooth terrain. Made by **HemcO Mfg., Inc.**, Dept. D, Argonia, Kans.

▲ For more details circle NED-684 J5 on enclosed inquiry slip ▲

FRICTION CLUTCH
made in capacities up to 170 hp at normal industrial speeds



Developed for applications where increased speeds prohibit use of jaw clutches and where smooth, gradual pickup is required, improved line of friction clutches includes capacities up to 170 hp at typical industrial speeds. Over-the-center toggle action assures positive, safe operation and allows drag-free idling. Split friction plate permits inspection without removing clutch from the shaft. Large friction surfaces give high torque capacity in relation to its size.

Three types are available. Clutch with mounting screws is usable on applications where it is desirable to mount sprockets, gears, pulleys or other power transmission equipment on the sleeve. Friction clutch with mounting ring provides a means for bolting drums, sprockets, pulleys or sleeves directly to the gear ring of the clutch. The friction clutch coupling type is designed for connecting two in-line shafts, and it permits smooth engagement and disengagement of the drive shaft. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ For more details circle NED-685 J5 on enclosed inquiry slip ▲

A SMALL LOT
METAL STAMPING SERVICE
AT LOWEST POSSIBLE DIE COST

FIRST... In Experience • In Know-how • In Research • In Quality • In Service

The sketch briefly describes the cost of a typical part made for one of our thousands of customers.

We have a short run stamping service to offer beyond comparison.

EXAMPLE

$57.50 for first 100 pieces including tools. $5.50 for each additional 100 pieces plus material.

Factory trained representatives in all centers. Write for full details.

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS 7E, MINN.

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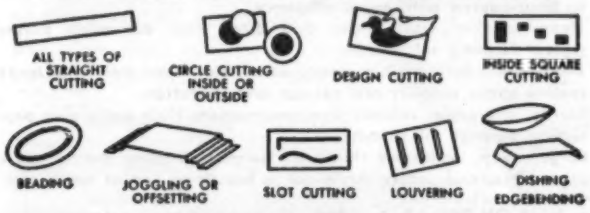
YOU'LL BE AMAZED at what PULLMAX DOES in metalworking

1 machine can do all these jobs in your shop

Ask any Pullmax user and he'll usually say, "I don't know how we ever got along without it." 7 sizes of Pullmax cut mild steel up to 1½". Pullmax does all the jobs shown here and generally pays for itself in three or four months by saving time, labor and material.

Booth 120, Coliseum Machy. Show

PULLMAX DOES ALL THIS WORK



COMPLETE NATIONAL SALES AND SERVICE
WRITE FOR THE PULLMAX CATALOG OF MONEY-SAVING METALWORKING IDEAS

AMERICAN PULLMAX COMPANY, INC.
2457 North Sheffield Avenue • Chicago 14, Illinois

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Staggered starting of electric motors...
AGASTAT
Time / Delay / Relay

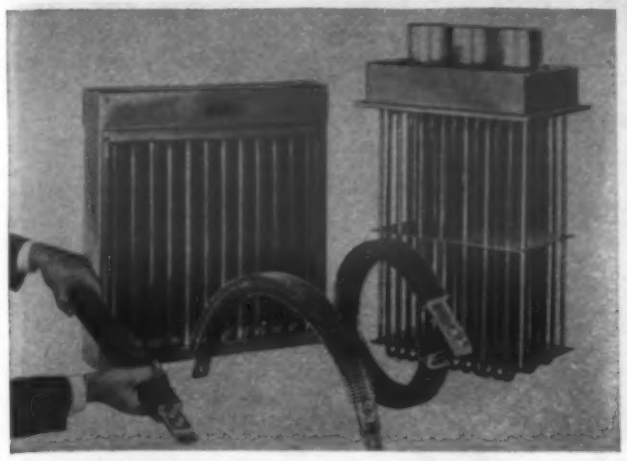
AGASTAT allows you to stagger the starting of three motors without imposing their load on the line at the same time.

The AGASTAT is
- electrically actuated, pneumatically timed.
- light, versatile, dependable.
- instantaneous recycling.
- adjustable in timing from 0.1 second to more than 10 minutes.
- available in AC or DC models which offer delays on energizing and de-energizing, manually-actuated time delay switch, remote push button control, hermetically-sealed units.

Write our application engineers for help with your timing problem. Address Dept. A25-95.

AGA DIVISION
Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

▲ For more details circle NED-688 J5 on enclosed inquiry slip ▲



accurately controlled temperatures to 1000°F easily maintained

CHROMALOX *Electric* AIR DUCT HEATERS

are the modern, economical answer to your requirements for heating air and gases under forced circulation. Parallel fin design dissipates maximum heat with minimum turbulence of air stream.

Easily installed in round or rectangular ducts. Either manual or automatic thermostat control. Moisture-proof types available.

Used in ducts for drying, curing, baking and annealing ovens—there's a heater for any air flow or temperature rise.

Let your Chromalox Sales-Engineering staff solve your heating problems...electrically

WRITE FOR YOUR COPY OF CATALOG 50

—for full information on the complete line of Chromalox Electric Heaters and controls.

For ideas on additional applications of electric heat, request Booklet F1550—"101 Ways to Apply Electric Heat."

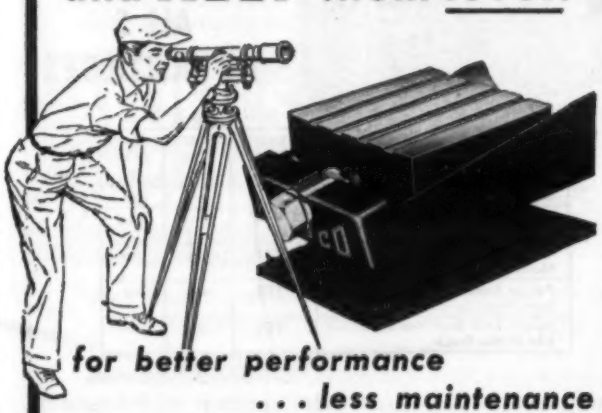
See ad on pg. 4

Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa.

A-4468

▲ For more details circle NED-689 J5 on enclosed inquiry slip ▲

SET your machines level and KEEP them level!



for better performance ... less maintenance

EMPCO Leveling Jacks provide a solid, adjustable support for machine tools, industrial furnaces, tool room and production equipment of all types. Easily installed—easily relocated, Empco Jacks cut maintenance costs . . . Keep machine performance at peak efficiency!

Vi-Sorb Mounting Pads are optional with Empco Jacks. They control vibration from within the machine itself, and reduce transmitted vibrations.

Empco Jacks are available in two styles and 6 models. There's an Empco Jack that will meet your exact requirements!

EMPCO PRODUCTS

WRITE TODAY FOR ILLUSTRATED BULLETIN AND PRICES!

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 Jerome Avenue • Detroit 12, Michigan

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Now...an entirely NEW CONCEPT in sewer and drain cleaning

The New Electric Eel

...with dual cable that self-feeds both in and out, completely eliminates manual handling

ADAPTABLE TO LONGER RUNS AND LARGER TOOLS

- *Non-helixing because cables are wound in opposite directions*
- *Dual cables tied together—easily pulled back if one breaks*
- *8' cable sections permit work in small spaces—cost less to replace*
- *Instant, snap lock cable connectors*
- *Present Electric Eel outfits are easily converted*
- *Complete set of cleaning tools available for lines 3" to 16"*

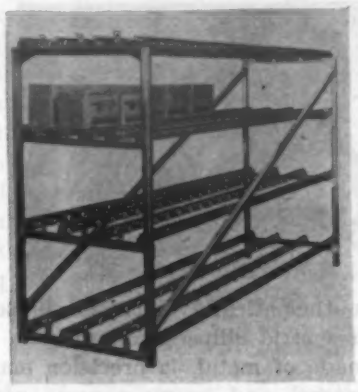
STRONG, FLEXIBLE, SELF FEEDING. Open winding of outer member permits cable to feed in and out easily—even through "P" traps. No manual handling—motor does the work.

Write Dept. NED for full details

The Ohio Tool and Engineering Co.
SPRINGFIELD, OHIO

▲ For more details circle NED-691 J5 on enclosed inquiry slip ▲

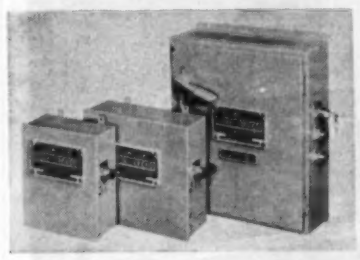
LIVE STORAGE RACK operates on gravity flow principle



Packages of various sizes can be stored with first in-first out accessibility in the Versarack. It is a storage rack with horizontal structural members equipped with ball bearing wheels to support the packages in rows. Packages, loaded into the rear of the rack, roll forward by gravity to a stop in the front. All flat-bottomed items, including tote boxes and palletized material, can be accommodated. Rigid frames are erected without drilling or welding and are easily adjusted to meet changes in service. Made by **M-H Standard Co.**, 513 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle NED-692 J5 on enclosed inquiry slip ▲

HIGH SPEED CLUTCH CONTROLS speed up press operation when installed on new or old machines



Series of high speed clutch controls can be adapted to and installed on new or old presses equipped with pneumatic clutch and brake. All three enclosure sizes offered are equipped to provide nonrepeat protection and functions of inching, single stroke and continuous operation. Selection is controlled by positioning an exterior oil-tight switch.

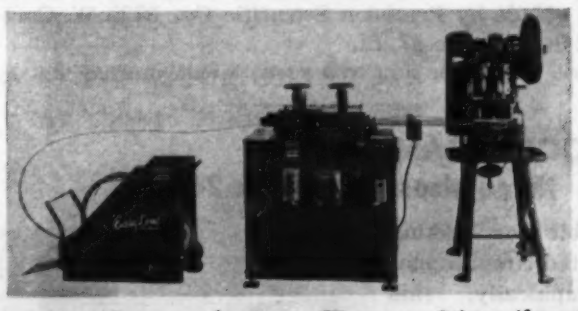
Small, basic control meets average requirements of a high speed press. Medium size unit can be equipped for timed inching or with a Size 1 magnetic motor starter.

Large size, built to JIC and NMTBA standards, incorporates control for press clutch and brake, Size 1 starter for press drive motor and externally operated, cover-interlocked disconnect switch. Optional functions of hand-foot, semicontinuous and timed-inching are available. Enclosures are of NEMA 12 construction with gasketed cover and external mounting straps. Dual voltage (220-440 v) primary transformers are provided. Air solenoid operates on 110 v ac from the transformer. Made by **Fawick Corp.**, Fawick Airflex Div., Dept. A, 9919 Clinton Rd., Cleveland 11, O.

▲ For more details circle NED-693 J5 on enclosed inquiry slip ▲

STRAIGHTENING-FEEDING MACHINES feed straightened strip stock automatically to punch presses

Improved models in the R and S series of automatic straightening and feeding machines are synchronized with the operation of the press, shear or other ma-



chine that they are feeding. They are driven through a Warner electric brake and clutch and controlled electrically to produce up to a maximum of 60 parts per minute, depending upon the length of feed required.

Standard feed rates of the R series are variable from 18 to 95 fpm and of the S series, from 20 to 105 fpm. Maximum width capacities are 10, 15 and 20 in. for the R models and 10, 15, 20, 24 and 30 in. for the S series. Thickness capacities for mild steel range from a minimum of 0.020-in. to a maximum of 0.190-in. Machines are furnished with controls arranged for feeding from left to right or from right to left. Through addition of casters at one end and a removable lift jack on the other end, these machines can be made portable. Made by **Rowe Machinery & Mfg. Co.**, 1508 N. Industrial Blvd., Dallas, Tex.

▲ For more details circle NED-694 J5 on enclosed inquiry slip ▲

... the preferred dial indicators

TIME-TESTED FOR ACCURACY AND DEPENDABLE PERFORMANCE!

For more than half a century, industry has relied on Ames indicators for help in the solution of measurement problems of all kinds. And through the years, Ames indicators have done their jobs superlatively well. The Ames reputation for extreme accuracy, ruggedness and reliability through many millions of cycles is due to an unswerving dedication to our original guiding principle—to make the best possible indicators and gauges, through constant research and the use of highest quality materials and expert craftsmanship.

We will gladly make recommendations on your measurement problems. Please send blueprints and specifications. And ask for your free copy of the Ames catalog.

Representatives in principal cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.

MANUFACTURER OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

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TRENT MUFFLE FURNACES FOR THE "LAB"

UNIFORM, CONTROLLED HEAT for temperatures UP TO 2300° F.

Only Trent Muffle Furnaces feature Trent "Folded-and-Formed" Heating Units—the unique heating unit design utilizing ribbon type resistor element Folded and Formed to give you maximum controlled heat radiation and uniformity . . . plus maximum physical rigidity for longer furnace unit life! Engineered for maximum operating temperatures of 2000° F. or 2300° F., Trent Muffle Furnaces assure faster, more efficient heating at reduced power consumption for chemical processing, enameling, ash determination, fusions and countless heat treating operations.

- Streamlined Design eliminates asbestos millboard and transite fronts
- Welded Construction features outer steel casing lined with laminated layers of high grade brick and slab insulation
- Heating Elements on all four sides of furnace chamber
- Hearth Plate of rugged ceramic, silicon carbide construction
- Fast Action Door—overlapping and plug type
- Built-in Controls: percentage input timer, pyrometer, on/off switch, pilot light, gold fuse

TRENT MUFFLE FURNACES NOW IN TWO NEW SIZES TO MEET YOUR OPERATING REQUIREMENTS

Model HL-4—8¼" x 5¼" x 16¼" deep; 4 KW, 230 volts, single phase, 60 cycle operation

Model HL-6—11¼" x 8¼" x 24" deep; 10 KW, 230 volts, single phase, 60 cycle operation

Let an experienced Trent industrial heating engineer show you how you can improve your heating and processing operations with a Trent Muffle Furnace. And ask him to show you the new Trent "Folded-and-Formed" Heating Element booklet which describes the advantages of Trent installations for solving your industrial heating problems.

TRENT INC. Electrically Heated Industrial Equipment
242 LEVERINGTON AVE., PHILA. 27, PA

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If You Use Fastenings Harper Is Your Ideal Source

If you use bolts, nuts, screws, washers or rivets of corrosion-resistant metals, Harper should be your number one source.

Harper is the largest company specializing in standard and special fastenings of brass, bronze, Monel, aluminum and stainless steel. 7,000 items in stock. There is a Harper Branch or Distributor near you.

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
3212 Lehigh Avenue
Morton Grove, Illinois

☐ Please send copy of catalog No. 26
☐ Please quote on attached specifications
☐ Please have salesman call

Name.....
Address.....
City.....State.....

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NOW— MORE TONNAGE in ALL benchmasters

Benchmaster gives you a totally new series of presses—redesigned for *extra* tonnage, more performance! Available in plain, open-back inclinable types, back-geared types, fixed bed-gap frame models and half-presses!

New improved clutch designs and other features again make Benchmasters the *finest* in the field... America's favorite low-cost punch presses! See your Benchmaster dealer and write for latest literature!

1835 W. ROSECRANS AVENUE • GARDENA, CALIFORNIA

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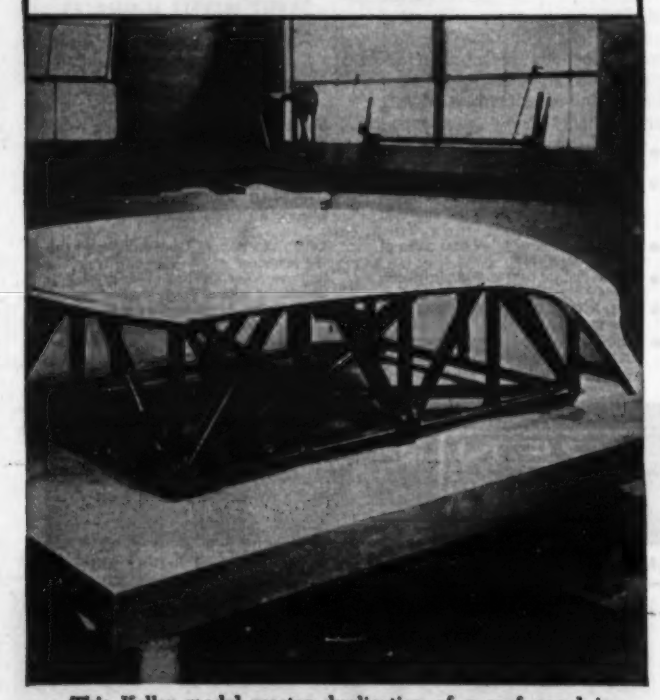
Make tools faster, more dimensionally stable with compounds based on BAKELITE TRADE-MARK EPOXY RESINS



This Keller model master duplication of a roof panel is lighter in weight and more dimensionally stable than the original mahogany model. It's made from plastic tooling compounds based on BAKELITE Epoxy Resins and produced by Ren-ite Plastics, Inc., Lansing 4, Mich.

METALWORKING TOOLS cost less when they're made with BAKELITE Brand Epoxy Resins. Compared with conventional materials, these compounds offer quick, easy production, plus these advantages:

- Liquid compounds—can be cast to shape without pressure
- Cured at room temperature—no applied heat
- Minimum shrinkage—minimum finishing
- Excellent flexural, compression, and impact strengths
- Outstanding dimensional stability
- Lighter weight that means easier handling
- Laminated with glass cloth to form jigs, spotting racks, fixtures and Keller models.

For more information, write Dept. JZ-119.

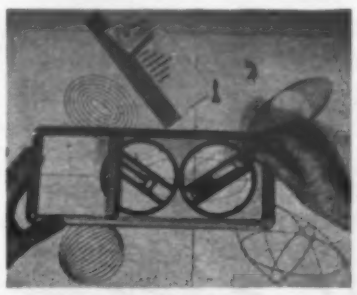
BAKELITE BRAND Epoxy Resins for Tooling

BAKELITE COMPANY, *A Division of Union Carbide and Carbon Corporation* UCC 30 East 42nd Street, New York 17, N. Y.

In Canada: Bakelite Company, Div. of Union Carbide Canada Limited, Belleville, Ont. The term BAKELITE and Trefoil Symbol are registered trade-marks of UCC

▲ For more details circle NED-699 J5 on enclosed inquiry slip ▲

ELLIPSE DRAWING AID also makes isometric ellipses



Any size ellipse in pencil or ink, up to 7 in. long and from a straight line or a point to a full circle can be drawn with this Ellipsograph. Instrument eliminates need for templates, is simple to use and makes mathematically correct ellipses in one operation. Isometric ellipses can also be made. Instrument is made of metal, is precision machined and has baked enamel and heavy chrome plated finish. Price is $22.50. Made by **Fowler Engineering Co.**, 1109 Maple St., Whittier 1, Calif.

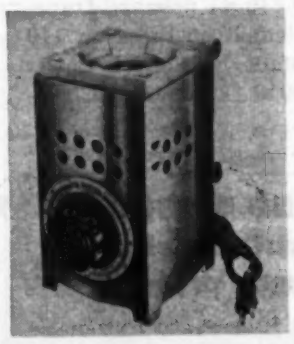
▲ For more details circle NED-700 J5 on enclosed inquiry slip ▲

ELECTRONIC TIMER in scale range of 0.2 to 60 sec

Full scale ranges of 0.2, 0.5, 1.5, 3, 6, 12, 24 or 60 seconds are available in model 2, type CK electronic timer. Timer operates by means of cold-cathode tube, requiring no warm-up time. Relay contacts are rated 8 amp noninductive at 115 v ac. Because of built-in voltage regulator, timed interval varies less than 2 per cent of full scale for any line-voltage change between 95 and 125 v. Available for front (illustrated) or back-of-panel mounting, timers feature dustproof housing and plug-in relays for easy servicing. Six operating styles are available, and all units are the same size, 5 x 4¼ x 3 13/16 in. Made by **Farmer Electric Products Co.**, 21-A Mossfield Rd., Waban 68, Mass.

▲ For more details circle NED-701 J5 on enclosed inquiry slip ▲

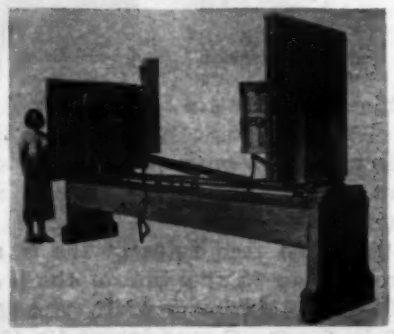
LABORATORY HEATER has stepless heat control



Built-in autotransformer in this Ful-Kontrol electric laboratory heater provides stepless control of power output from 0 to 750 w. Calibrated dial permits reproducibility of heat or power output to within 1.6 w. Refractory top is reversible and beveled to a different diameter on each side to accommodate various sizes of flasks. Ribs on the bevels leave air space under the flask to assure heating efficiency and prevent breakage. Made by **Precision Scientific Co.**, 3735 W. Cortland St., Chicago 47, Ill.

▲ For more details circle NED-702 J5 on enclosed inquiry slip ▲

PROCESS CAMERA three sizes up to 24 x 24 in.



Usable for making printed circuits photographically, this process camera is available in 11 x 14, 16 x 20 and 24 x 24-in. sizes and wired for 110/220 v ac. Professional type unit has vacuum frame, operated by ¼-hp pump, which swings into horizontal position for loading. Twin 1500-w, 3200° F Kelvin lamps are controlled by either automatic preset timer or light integrator. A Goerz or Wollensak lens with diaphragm control and electrically operated solenoid shutter are provided. Selector valve allows use of film from 4 x 5 in. up to 24 x 24 in. Bellows is Naugahyde. Made by **Miller-Trojan Co.**, 511 Ridge Ave., Troy, O.

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HYDE PRODUCTS FOR INDUSTRY

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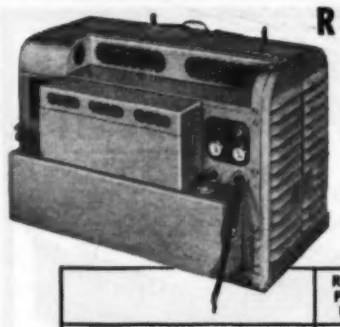

READY-POWER Gives Materials Handling Trucks ALL 5 ADVANTAGES

	READY-POWER UNITS	POWER TYPE A	POWER TYPE B
Simplicity of Electric Drive	YES	yes	no
Maximum Power for Unlimited Periods	YES	no	yes
Off-the-Truck Power Unit Maintenance and Adjustment	YES	yes	no
Power That's Interchangeable from Truck to Truck	YES	yes	no
Power That Lasts for the Life of the Truck	YES	no	yes

Don't let low "first costs" hide important truck operating advantages. The Ready-Power features, shown above, add up to lowest ton-mile costs, minimum downtime, fleet flexibility, and *profitable* long-range investment.

Only Ready-Power offers removable gas-electric, LPG-electric and diesel-electric power units for all makes and sizes of electric trucks . . . from walkies to 80,000 lb. giants. *Write for more information.*

READY-POWER

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GLOVCO's "Over-Kote" plan of cleaning, repairing and recoating makes them safe and good as new at fraction of original cost.

This is a new service that will save money for you. Plants are saving 90% of the plastic-coated gloves they once threw away. We guarantee satisfaction.

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ELIMINATE WASHER LOSS

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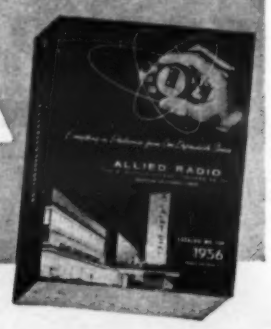

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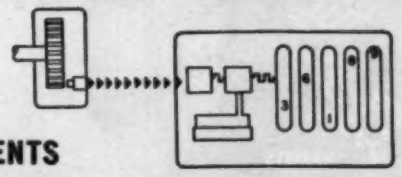
news notes from Berkeley division BECKMAN

Berkeley INDUSTRIAL TACHOMETERS for ACCURATE RPM MEASUREMENTS



★ Accuracy ± 1 rpm for any reading; self-testing
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NOW IN USE for jet and piston engine, electric motor research and testing; has practical applications wherever precise rpm measurement is required. Write for data, prices. Please address Dept. H9

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BECKMAN INSTRUMENTS INC.
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67

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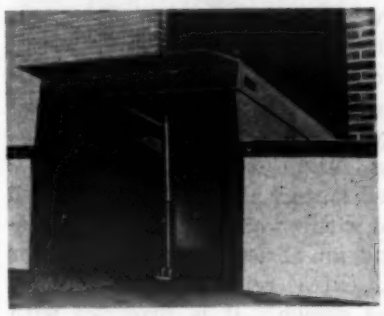
SPEED REDUCER
in single and double reduction types

Nine models in line of series C speed reducers provide 108 sizes. They are available in single and double reduction worm-gear types, as well as in double reduction, worm and helical gear type. Horsepower range is 0.018 to 34.14, with ratio range of 5:1 to 4460:1 and maximum output torque range of 103 to 34,767 lb-in. Housing has been designed to give high thermal capacity and to provide vibrationless mounting. Tapered roller bearings and large shafts are used to give high load carrying capacity. Made by **Winsmith, Inc.**, 24 Eaton St., Springville, Erie County, N. Y.

▲ For more details circle NED-710 J5 on enclosed inquiry slip ▲

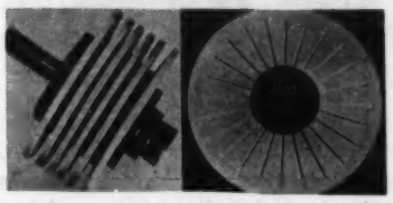
TRUCK DOCK RAMP
accommodates all truck bed heights



Built - in automatic "floating action" of the Trans-O-Matic ramp permits it to handle all loading and unloading, regardless of truck bed heights. The ramp lip rides with the fluctuating truck height as load weight changes. When not in use the ramp can be positioned at platform level for normal dock traffic. An automatic safety switch prevents any sudden dip. Installation requires only connection to an alternating current electric line. Lip travels through a 30-in. arc, moving up or down 15 in. from dock level. Nonskid deck is ⅜-in. checkered steel plate measuring 6 ft by 8 ft 4 in. Power unit is located under the ramp. Lifting power is supplied by a high pressure jack. Made by **Globe Hoist Co.**, 1002 E. Mermaid Lane, Philadelphia 18, Pa.

▲ For more details circle NED-711 J5 on enclosed inquiry slip ▲

POROUS IN-LINE FILTERS
new design increases compactness



Improved porous Teflon and Kel-F in-line filters feature all welded construction with molded flow passages. Disassembly and cleaning are easy. Compactness achieved with new design results in a square foot of filter area contained in a volume 2 in. high by 3½-in. OD. Sizes up to 10 sq ft at prices 55 per cent lower than previous units are available. Made by **Porous Plastic Filter Co.**, Dept. PT, 30 Sea Cliff Ave., Glen Cove, N. Y.

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POWERED BELT CONVEYORS
in three "building block" types

Floor - to - floor, table top and booster model Versa-Veyor powered belt conveyors are built on the "building block" principle. Where strength, size and function permit, many parts are interchangeable on all three types. Table top or T series is available with 12 or 18-in. wide belts and aluminum or steel frames. Series F, for floor-to-floor use, is offered in same belt widths and choice of frames. Portable series S12A features low weight and low height for use over stairways. With special undercarriage, it can be used for loading and unloading trucks. Use as a power booster in gravity conveyor lines is also possible. Made by **Belt Corp.**, 7500 Stahl Rd., Orient, O.

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100% ACTIVE
LIQUID SYNTHETIC DETERGENT

Equally effective in hard or soft water. . . LOOSENS and LIFTS dirt—holds it in suspension in rich, creamy suds.

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Write for literature; have your DOLGE Service Man demonstrate CINDET.

FOR FREE SANITARY SURVEY OF YOUR PREMISES SEE YOUR DOLGE SERVICE MAN

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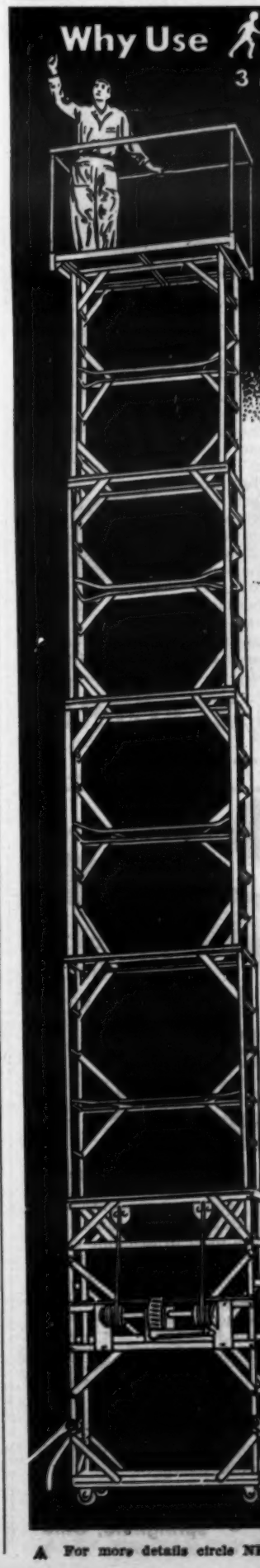
Why Use 3 Men When 1 Man Will Do It . . .



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- Safe, Sturdy, Dependable
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For servicing lights and unit heaters . . . for painting . . . for cleaning . . . yes, for any overhead maintenance — you'll do it much faster . . . with greater safety . . . and at less cost with HI-LIFT Portable Work Platform.

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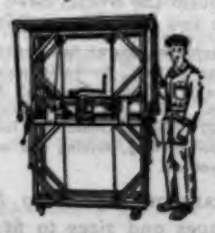

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MEANS "ACCURATE MARKING"

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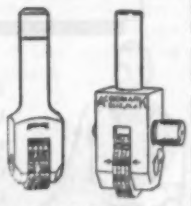

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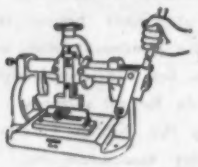

SERIES 9A BENCH MARKING MACHINES

NON-AUTOMATIC NUMBERING MACHINES

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Precision Model has expansion range of .010". Available in regular sizes to fit holes from ½" to 3" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

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CHAMPION Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.

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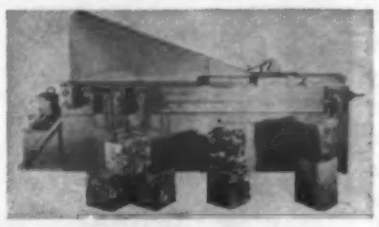
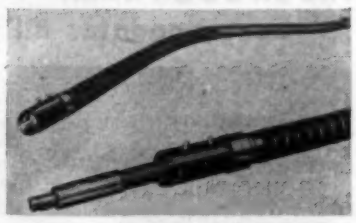
SCRAP METAL BALER is portable hydraulic unit



Contents of 8-cu ft charging compartment in this portable hydraulic scrap metal baler is compressed into a 12 x 12 x 12-in. briquette which will weigh up to 120 lb. Unit does not require a pit and will bale scrap and trimmings up to 54 in. long. It measures 12 ft 3 in. long, 41 in. wide and 67 in. high, and weighs 4000 lb. Charging compartment door, bale ejector and compressing ram are all hydraulically operated. Unit is powered by 5, 7½ or 10-hp motors. Made by **East Chicago Machine Tool Corp.**, Balemaster Div., Dept. E, 4801 Railroad Ave., East Chicago, Ind.

▲ For more details circle NED-719 J5 on enclosed inquiry slip ▲

POWER DRIVE FLEXIBLE SHAFT for heavy duty industrial use



Heavy duty 1¼-in. diameter core is heart of this power drive flexible shaft which can transmit up to 1650 lb-in. of torque at 440 rpm. Heavy duty flexible casing is lined with oil-tempered spring steel, reinforced with wire braid and covered with an oil-resistant neoprene-impregnated fabric and an abrasion-resistant rubber jacket. If required, extra reinforcement can be placed on one end, as shown. It is provided with steel-backed bronze sleeve bearings at each end. Couplings of various bores are available. Square slip joints, 18 in. long, are available for connection at one end to extend the length. Made by **Stow Mfg. Co.**, 26 Shear St., Binghamton, N. Y.

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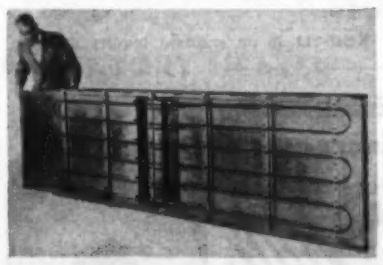
RADIANT HEAT PANELS in densities to 80 kw per unit



Radiant heat work temperatures up to 600° F are supplied by this water and rustproof electric Radiant Panel for food processing requirements and other applications where periodic washdowns are mandatory. Panels measure 9½ ft long by 37½ in. high and are made of aluminum and Monel with six waterproof immersion type tubular heating elements mounted lengthwise on 6-in. or closer centers. Each half of the two-piece aluminum reflector can be removed quickly for cleaning. The thermal shockproof elements connect to a completely sealed and leakproof housing in the rear of the unit. Special alloy constructions are available for exceptionally acid or corrosive service. Panels can be supplied in any watt density up to 2.7 kw per sq ft or 80 kw per unit and for all commercial voltages. Made by **Edwin L. Wiegand Co.**, 7509 Thomas Blvd., Pittsburgh 8, Pa.

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SMALL POWER RESISTORS wire-wound units have axial leads

Available in extensive range of sizes and ratings, small power type resistors have axial leads. They are wire-wound units, with steatite cores and vitreous enamel coating. Resistance wire and lead are both welded to the end cap to assure permanently stable electrical connection. Smallest resistor measures ¼-in. diameter by 19/32-in. long. Two sizes, rated at 5 and 10 watts, are carried in stock in wide range of resistance values. Made by **Ohmite Mfg. Co.**, 3678 Howard St., Skokie, Ill.

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MORE THAN 100 DIFFERENT TYPES
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Charles Eisler, Jr., President

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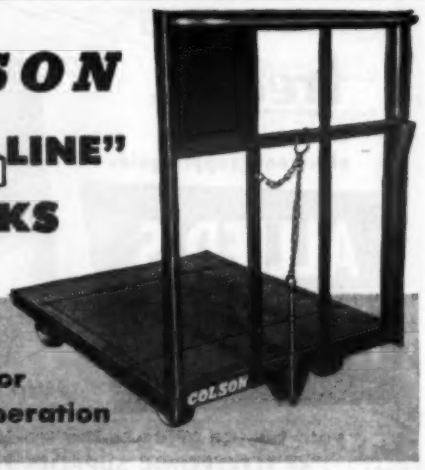
COLSON "IN LINE" TRUCKS



COLSON "In Line" Trucks are engineered and built for maintenance free operation even in unusually rigorous service. They're equipped with all-welded frames, 1" thick selected hardwood decks and famous COLSON PressWeld Casters.

Available in 3 platform sizes, with 4 types of running gear and 4 types of towing devices for either overhead or subfloor conveying systems.

Casters • Hand Trucks • Lift Jack Systems • Hydraulic, Electric and Mechanical Power Lifts and Transports

THE Colson CORPORATION
Elyria, Ohio

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provides greater protection than conventional acid-proof floor materials . . . at considerable savings.

Recommended for use in chemical processing, food processing, plating and metal working industries, COROCRETE is quickly and easily applied over existing concrete surfaces . . . handles like cement topping.

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THE CEILCOTE CO., Inc.
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4838 Ridge Road, Cleveland 9, Ohio

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Increased production . . . higher quality . . . fewer man hours! Controlled air and hydraulic feed . . . rapid traverse adjustment . . . adjustable stroke length . . . use singly or in combinations. Write for bulletin 5546-T on Automatic and Par-A-Matic Drills.

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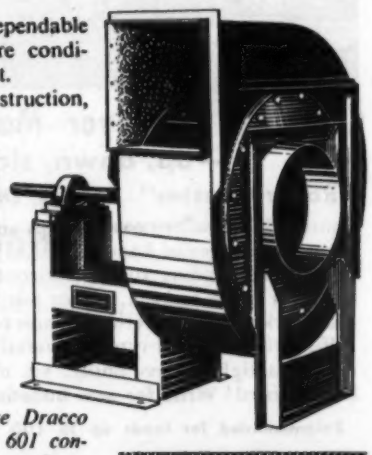
dracco industrial fans

FOR BETTER AIR HANDLING



Dracco Fans assure dependable operation, withstand severe conditions, have low lifetime cost.

Heavy gauge steel construction, welded and vibration-free. Precisely balanced. No castings to crack. Accurate shaft. Rotation and discharge adjustable. Wide range of sizes: volumes from 500-46,000 CFM "Performance Proved" by 15 years' service with Dracco Dust Control systems. For details, contact:

Write for 40-page Dracco Fan Bulletin No. 601 containing complete performance data and specifications.

DRACCO CORPORATION
4055 EAST 116th STREET
CLEVELAND 5, OHIO

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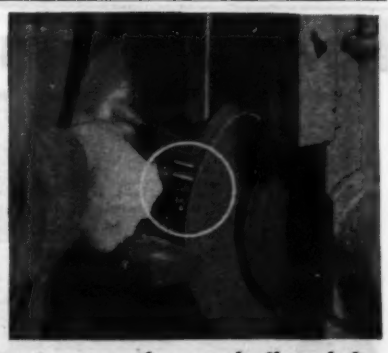
The money they save!



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To top grinding quality, Norton Reinforced Wheels add great strength, long life and an unusual margin of safety. All four are resinoid bonded and reinforced by layers of fabric. As follows:

BF — Semi-flexible straight wheel, cotton fabric reinforcement. Also available in mounted wheels and points and hand sticks.
BN — Straight wheel with glass cloth reinforcement.
BD — Rigid hub-type. Glass cloth and Nylon reinforcement.
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W-1639

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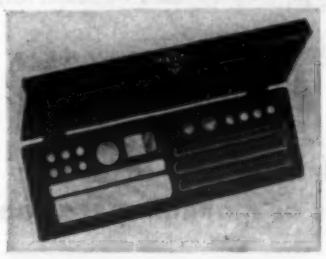
▲ For more details circle NED-728 J5 on enclosed inquiry slip ▲

STRUCTURAL FRAMING MEMBER for making racks, palletizing loads

Unlimited application possibilities as a framing member in constructing racks, palletizing loads and general warehousing are provided by Proctor W-M Strut. Easily erected without special tools, welding or drilling, struts have dual slots which allow complete adjustability. Struts are made in 1½, 2½ and 4-in. sizes in spans from 12 to 180 in. Decking members, adapters, tee bolts and fittings are used for assembly. Beam load capacities for the 4-in. size range from 7035 to 720 lb for spans from 12 to 180 in. Beam deflection ranges from 0.0030 to 1 in. under these loads. Made by **Proctor & Schwartz, Inc.**, 702 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle NED-729 J5 on enclosed inquiry slip ▲

OPTICAL DESIGN KIT includes prism, lenses and mirrors



A prism, cylindrical and spherical lenses, and flat, cylindrical and spherical mirrors suitable for use in all types of optical systems and devices comprise this optical experimental kit. Nineteen accurate components are packaged in a fitted case. Galvanometer mirrors range as small as 0.0025-in. thick and 0.010-in. in length and width. Thickness tolerance is held to ±0.0002-in., length and width tolerance to 0.0005-in. Lenses range from galvanometer types (0.100-in. wide, 0.200-in. long) to 14-in. cylindrical camera lenses. All items are available from stock in any needed quantity. Made by **Houston Technical Laboratories**, Dept. A, 2424 Branard, Houston 6, Tex.

▲ For more details circle NED-730 J5 on enclosed inquiry slip ▲

ADJUSTABLE LOADING RAMP 20,000-lb capacity hydraulic unit

Self-leveling action of the No. 4 A.F. adjustable loading ramp compensates for varying heights of truck beds, plus carrier spring deflection during freight transfer. An automatic safety device holds the deck in its last position should the carrier leave the dock accidentally. Once the carrier is positioned, deck is lowered until layover arms and hinged bridge plates rest on the bed. At this point the safety mechanism and self-leveling action go into operation. Deck of ⅜-in. nonskid floor plate can be positioned flush with dock. Standard width is 6 ft and lengths offered are 5, 6, 7½ and 10 ft. Made by **Rowe Methods, Inc.**, Dept. A, 2534 Detroit Ave., Cleveland 13, O.

▲ For more details circle NED-731 J5 on enclosed inquiry slip ▲

INDUSTRIAL SEWING MACHINE for heavy-duty garment trade

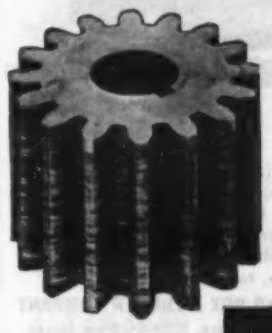
Designed especially for circular and tubular operations such as hemstitching leg bottoms of overalls, coveralls, dungarees, pants and slacks, styles 61400 M and 61400 T industrial sewing machines have been added to the lockstitch line. Both have top and bottom roller feeds which are adjustable for matched feeding. First machine handles ⅜ and ½-in. turned down hems, while second makes ½ to 2½-in. hems. Made by **Union Special Machine Co.**, 416 N. Franklin St., Chicago 10, Ill.

▲ For more details circle NED-732 J5 on enclosed inquiry slip ▲

C/R GEARS

SILENT
SOAK UP SHOCK LOADS
SAVE MACHINES

RAWHIDE, PHENOLIC, NYLON



They're extremely tough and have high fatigue resistance. Meshed with metal gears, C/R rawhide absorbs severe shock loads, saves expensive drives, transmits high efficiency power quietly . . . reduces machine noise, worker fatigue. Special gears made of many other materials such as Fabroil, Micarta, Textolite, and metal.

Write today for "C/R Gears & Pinions."

CHICAGO Rawhide MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

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in doubt about

limit switches?

find out about

SNAP-LOCK

National Acme SNAP-LOCK Limit Switches are designed and built to stand up under the heaviest service that rugged, precision operated machine tools (often demanding more than 400 contacts a minute) or other modern machine design can place upon them.

Records prove SNAP-LOCKS dependable for more than 15,000,000 contacts . . . perhaps the best reason why they have been adopted as standard switch equipment by 4 out of 5 builders of heavy duty machine tools.

If *you* are looking for limit switches you can install and forget, let us work with you in designing these trouble-free SNAP-LOCK switches into your equipment.

WRITE FOR BULLETIN EM-51. It shows various types of Snap-Lock switches available—including water-resistant and special purpose. Lists design features, specifications, wiring diagrams, ordering data. Also shows other National Acme electrical components and controls that may improve your product.

ELECTRICAL MANUFACTURING DIVISION
THE NATIONAL ACME COMPANY
182 East 131st Street, Cleveland 8, Ohio

▲ For more details circle NED-734 J5 on enclosed inquiry slip ▲

LOW COST, RUGGED
Hydraulic
SKID TRUCKS
for loads up to 1000 lbs!

- ★ HYDRAULIC RAISING & LOWERING
- ★ PUSHES OR PULLS
- ★ FLOOR PROTECTIVE WHEELS
- ★ ALL STEEL WELDED CHASSIS
- ★ LIGHT WEIGHT
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● Fully illustrated bulletin HST-19 describes this versatile truck in detail. Write for it today. Catalog GP-17 describing many standard Ironbound cost-saving units will be sent you without obligation, too.

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55 Hoffman Place, Hillside, New Jersey

IRONBOUND

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, SKID TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

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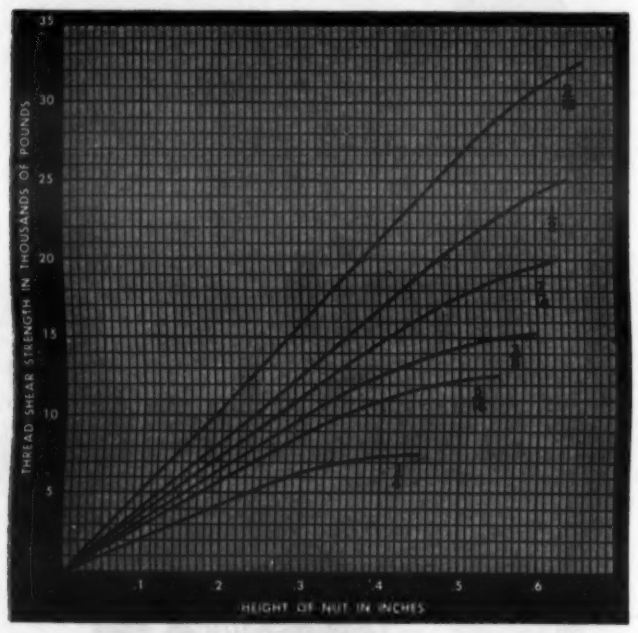


Figure 2

24 page
engineering data...
Section

Figure 2, Height vs. Shear Strength, on page 5 in our new Engineering Data Section of our catalog, is just one of the several factors that are discussed on pages 3, 4, 5 and 6 for applications of finished hexagon nuts (fine and coarse threads) where highly stressed bolts of special material are required. . . . Fourteen topics, concerning the technique in the manufacture and the proper installation of our product are covered in this brochure — requests for this literature will be handled promptly.

NATIONAL MACHINE PRODUCTS COMPANY

*Manufacturer of Standard and Special *12 Pointer and Hexagon Nuts . . . "Hexlock" and "Marsden" locknuts,*

44231 Utica Rd., UTICA, Michigan

▲ For more details circle NED-736 J5 on enclosed inquiry slip ▲

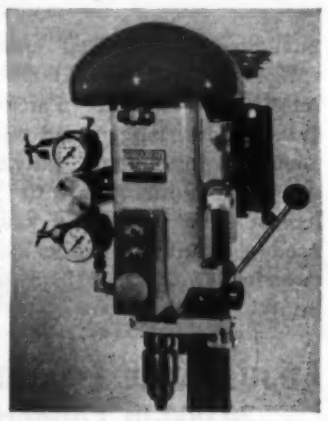
AUTOMATIC PHONE SYSTEMS
four flexible systems designed to speed internal communications

Four flexible automatic telephone systems are designed to speed internal communications and to relieve switchboard operators of all intra-plant calls. For smaller offices, there is a 10-phone hook-up that operates on a single line. Another 10-phone system utilizes two links so that four phones can be used at one time. Two more networks have 15 phones on three links and 28 phones on four links. Up to eight phones can be used simultaneously with the four-link system.

Each phone is dialed by a one or two-digit number. If the line is busy, an automatic ring-back calls the party at the other end as soon as the line is cleared. For key men, priority circuits can be installed on one or more phones to "break through" a busy signal for urgent messages. Paging buttons can be added to selected phones, enabling key people to call plant personnel by loudspeaker right from the phone. Welded steel automatic switchboard has built-in power supply and mounts inconspicuously on a wall. Made by **DuKane Corp.**, Dept. NED, St. Charles, Ill.

▲ For more details circle NED-737 J5 on enclosed inquiry slip ▲

DRILL PRESS HEAD
integral air-hydraulic unit affords either automatic or manual operation

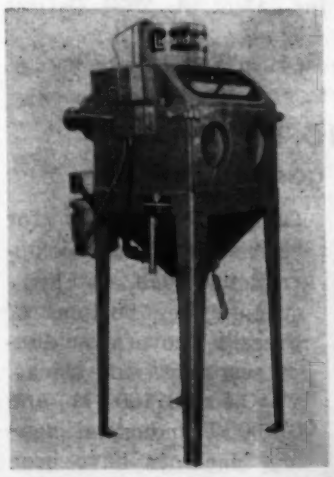


A choice of completely automatic or manual operation is afforded by the Rotafeed integral air-hydraulic drill press head. Conversion from automatic to manual is set up by merely shutting off air pressure and inserting instantly-removable drill press handle. Head is easily installed on any round drill press column and requires only connection to air and electric outlets for operation.

Drill press head operates on 30 to 40 psi air pressure for average single spindle drilling, but can handle multiple spindle operations. Multiple spindle drilling is achieved without loss of stroke length since extra length quill is used which has projection below thrust plate to allow clamping on drill head. Forward hinging pulley guard facilitates belt changing. Other features are micro-depth adjustment by calibrated knob and infinite-type external rapid-approach adjustment. Made by **Rotafeed Co.**, Dept. NE, 2820 E. Grand Blvd., Detroit 11, Mich.

▲ For more details circle NED-738 J5 on enclosed inquiry slip ▲

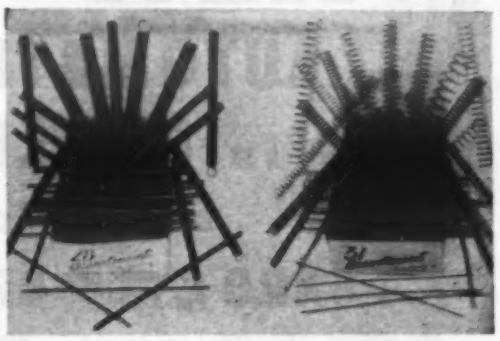
LIQUID HONING MACHINE
deburrs and finishes small parts



Cleaning, surface-finishing, descaling, fine deburring, honing and finishing of small parts and tools that can be inserted through the 15½ x 9-in. loading door are typical operations that can be performed on this Junior liquid honing machine. Completely self-contained, this model 1818 requires only water, air, electrical and exhaust connections for immediate use. It uses 15 to 20 cfm of air at 90 psi. Recirculating slurry pump driven by a ⅓-hp motor, filter-equipped exhaust fan and motor, noncorroding removable filter, abrasive gun with attached control valve, flexible hoses, observation window, fluorescent light, knee-operated window washer, removable loading table, pushbutton starting and hopper with drain are features. List price is $550. Made by **Vapor Blast Mfg. Co.**, 3063 W. Atkinson Ave., Milwaukee 16, Wis.

▲ For more details circle NED-739 J5 on enclosed inquiry slip ▲

Stock SPRING assortments



Our #28 (extension) and #31 (compression) Spring Assortment folders are now available and yours for the asking. Ideal for tool rooms and maintenance work.

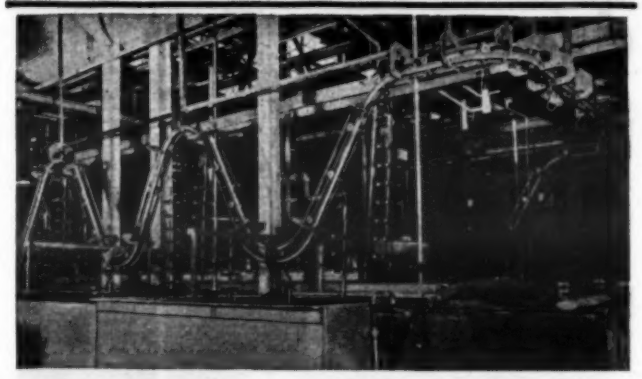
To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

We also manufacture to special order.

Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-740 J5 on enclosed inquiry slip ▲



Chainless Conveyor Makes Short Turns — up, down, sideways!

"Roller-Coaster" Solves Dip-Tank Operation!

Short-radius "roller-coaster" dips and turns like those above show advantages of Landahl CHAINLESS Conveyors. They permit short-radius turns, horizontally and vertically. No chains or cables to kink, sag, or pile up . . . no excess slack to cause jerky action. Steel-rod connectors pivot at both ends on self-lubricating ball-type universal joints. Unique trolley design is lighter, less bulky, yet meets any practical load-bearing need! **Write for new bulletin G-100**

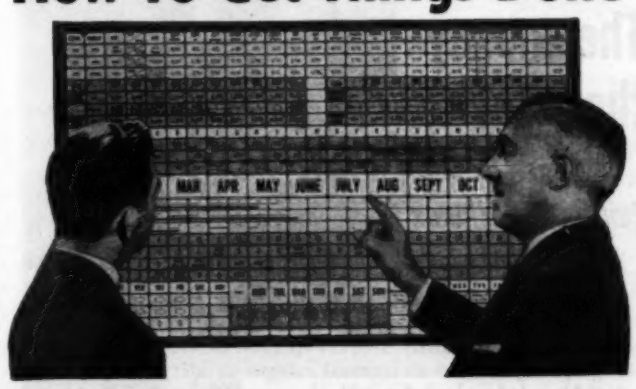
Recommended for loads up to 100 lbs. per ft.

LANDAHL **Chainless** CONVEYORS

The LANDAHL CONVEYOR CO., 13116 Athens Ave., Cleveland 7, Ohio
A SUBSIDIARY OF THE AMERICAN MONORAIL COMPANY

▲ For more details circle NED-741 J5 on enclosed inquiry slip ▲

How To Get Things Done



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Gives you a Graphic Picture of your operations, spot-lighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

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FREE 24-Page Illustrated Booklet N-300 Mailed Without Obligation

GRAPHIC SYSTEMS 55 WEST 42nd STREET NEW YORK 36, N. Y.

▲ For more details circle NED-742 J5 on enclosed inquiry slip ▲

STOP *PROFIT-ROBBING* ACCIDENTS

EASILY REACHED

OUT OF THE WAY OVERHEAD

INSTALLED ANYWHERE

WITH PRODUCTION-BOOSTER WAYNE HOSE REELS

REMOVE ACCIDENT HAZARDS: No suspension cables or coils of loose hose to trip over. Operator draws out only the hose length needed, releases it for automatic rewind when he is finished.
RELIEVE WORK FATIGUE: Keep tools out of the way but within easy reach. Cut waste motion. Automatic uptake positions tool directly over or beside work. Finger-tip control of tools.
PROVIDE SAFER EQUIPMENT: No electric motor needed. Reel is spring-activated.

The Wayne Production-Booster Hose Reel promotes high-speed assembly and production as well as safety. Turns your average operator into a skilled craftsman by making every motion count. You save wear, tear, and breakage, too, on hose and costly tools. Savings possible in hose life can offset cost of reel. Write for illustrated data folders.

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Industrial Division • FORT WAYNE, INDIANA
Salisbury, Maryland • Toronto, Canada

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NONSLIP SURFACE THAT GOES ON LIKE PAINT

Tread-sure, an abrasive-filled plastic brushcoating, produces an antiskid surface on wood, concrete or steel. Resists gasoline, alcohol, oil, grease and many types of acids. Provides nonslip safety footing on walkways or stairs whether the surface is wet, dry or oily, either indoors or outdoors. Available in Battleship Gray, Red, Green and Yellow. For full information, write: Dept. H15-968.

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NEW! WAYNE POWER SWEEPERS

World's Finest **most advanced**

Completely new, years-ahead power sweepers engineered to outlast, outperform any other sweeper!

• Advanced automotive-type steering affords greater maneuverability. • "Filter-Vac" Dust Control; no dust bag to empty. • "Reach-Easy" Controls for maximum safety and control. • Power Dumping disposes of refuse automatically. • "Power-Flex" Action for picking up larger objects. • Vacuum Cleaning Hose Connection. • Greater power on demand for climbing steepest grades.

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World's Largest Producer of Power Sweepers for Cities and Industry

▲ For more details circle NED-745 J5 on enclosed inquiry slip ▲

HAND TAPE DISPENSER
for use with pressure-sensitive tape

Elimination of waste, fast and accurate application and ease of operation are features of this Tape Rite one-hand dispenser for pressure-sensitive tapes. Tape pays out of the applicator and is firmly attached to the job surface by a resilient steel finger. When the correct point is reached, the unit is rolled over, and the serrated edge of the finger cuts the tape at the desired spot. It is made of steel with metallic green enamel finish, and it will accommodate ¾ or 1-in. wide tape with a standard 3-in. core. Developed by **GorDag Industries, Inc.,** Dept. NED, 2215 Foshay Tower, Minneapolis 2, Minn.

▲ For more details circle NED-746 J5 on enclosed inquiry slip ▲

PORTABLE SPACE HEATER
manually controllable heat capacity

Fired with ordinary fuel oil, the Herman Nelson Thrifty portable heater will burn gasoline efficiently when outdoor temperatures fall below the "firing range" of fuel oils. Heating capacity is manually controllable from 50,000 to 170,000 Btu per hour. Heated ventilation air is discharged under pressure by means of an electric motor driven blower. It can be used indoors or outdoors, with canvas ducts to convey heat to any desired point. Combustion gases are separately vented to the outdoors when required. Indirect fired unit has safety devices that guard against overheating, power and flame failure. Made by **American Air Filter Co.,** 391 Central Ave., Louisville 8, Ky.

▲ For more details circle NED-747 J5 on enclosed inquiry slip ▲

COMBINATION MACHINE
does 12 jobs on sheet metal

Equipped with 12 different pairs of standard rolls, No. 150 hand-operated deep-throat combination machine will turn, burr, wire, elbow-edge, single-bead, OG-bead, crimp, furnace collar-edge, body-flange, slit and trim sheet metal. Work can be fed in either direction with the same clockwise cranking. Features are deep throat construction and long shaft ends for wide rolls. Made by **Niagara Machine & Tool Works,** Northland Ave. & Chelsea St., Buffalo 11, N. Y.

▲ For more details circle NED-748 J5 on enclosed inquiry slip ▲

ROUND HOLE SAWS
in sizes for ⅝ to 4½-in. holes

Clean, round holes in metal, wood, plastic and other materials can be cut with these heavy-duty hole saws. The shatterproof saws are doubled welded to combine high speed steel cutting edge with extra tough body which, in turn, is welded to rigid steel cap. Cap is threaded for interchangeable arbors which have ¼-in. pilot drill. Arbors are available with ½ or ¾-in. hexagon or ¼-in. round shanks for use in portable power tools, lathes and drill presses. Sizes for cutting ⅝ through 4½-in. holes are provided. Made by **L. S. Starrett Co.,** Dept. ED, Athol, Mass.

▲ For more details circle NED-749 J5 on enclosed inquiry slip ▲

▲ For more details circle NED-750 J5 on enclosed inquiry slip ▲

Xduct Rigid Steel Threaded Conduit

Xduct Jr. Electrical Metallic Tubing

National Electric XDUCT conduits

These are the features that make the *new* National Electric Xduct Conduits sure winners with electrical contractors everywhere:

1. Easiest Fishing Conduit!
Xduct's new baked-on inside coating of aluminum enamel provides minimum friction between conduit wall and wires. The result: Fishing tests conducted with five other leading brands of conduit prove Xduct is 66% easier to fish on constant pull—more than twice as easy to start.

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Sharp, clean threads of Xduct rigid steel conduit are machined before galvanizing to assure complete protection from end to end. The result: every hill and valley of threads is completely galvanized.

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Twist!

For medium to heavy torque loads, use Apco Mossberg dial type torque wrenches. These precision measuring instruments are designed to provide the utmost accuracy in ranges from 280 inch grams to 2,000 foot pounds.

There is a complete line of industry-proven Apco Mossberg torque tools for use wherever nuts, bolts, studs or screws need to be tightened to uniform or predetermined tension — or wherever there is danger of stripping threads or shearing. Write for catalog. Apco Mossberg Company, 161 Lamb Street, Attleboro, Mass.

APCO MOSSBERG COMPANY
ATTLEBORO, MASS.

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BELT-SAVER PULLEYS

You'll cut belt costs when handling rough, abrasive materials with Belt-Savers. Exclusive cone and wing design prevents materials from lodging between pulley and belt, increasing belt life from 50% to 400%.

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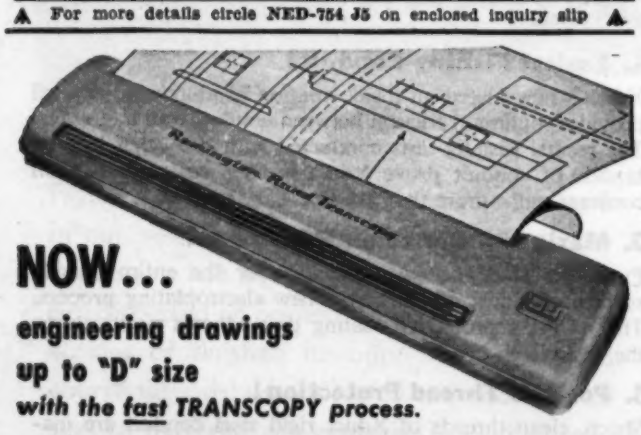
▲ For more details circle NED-754 J5 on enclosed inquiry slip ▲



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PERSONNEL CONVEYOR
speeds movement in congested areas

Adapting the tested principles of the escalator or moving stairway to horizontal and mild gradient travel, the Trav-O-Lator provides safe, fast, comfortable method of moving large numbers of people in congested areas. It employs an endless series of moving metal-treaded platforms traveling on a wheel and track system and affords a firm, stable footing for passengers. It will be available in 32-in. width which will carry up to 7500 passengers per hour and in the 48-in. size which will carry up to 12,000 persons per hour. Length can be tailored to suit any need. Developed by **Otis Elevator Co.**, Dept. NED, 260 Eleventh Ave., New York 1, N. Y.

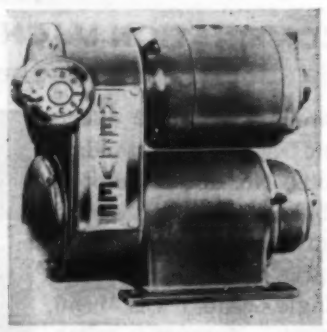
▲ For more details circle NED-756 J5 on enclosed inquiry slip ▲

LIGHTWEIGHT METAL FRAMING
for racks, shelves and supports

Added to present line of heavy duty framing channels and fittings, lightweight, all-purpose A-series channel and fittings are adaptable for the construction of shelving, racks, tables, display framing, and mechanical and electrical supports. It is easily assembled with a hacksaw and wrench. Channel is cut to length and bolted together with stock fittings and spring-held gripping lock nuts. Channels are offered in 1¼ x 1¼-in. 14-gage, ⅝ x 13/16-in. 19-gage and 1¼ x 2½-in. 14-gage angles in lengths of 10 and 12 ft. Made by **Unistrut Products Co.**, Dept. A, 1013 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle NED-757 J5 on enclosed inquiry slip ▲

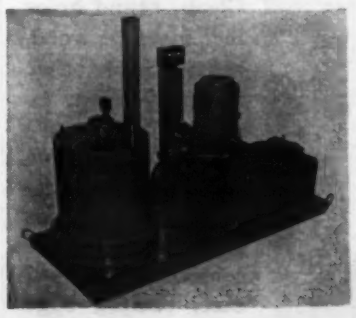
VARIABLE SPEED DRIVE
is motorized 1-hp packaged unit



Compact and applicable to all industrial equipment, No. 100 Vari-Speed Motodrive is rated 1 hp and is available in speed ranges from 2:1 through 8:1. This packaged unit combines a "weatherized" motor, Reeves speed changing mechanism and an heat-treated helical gear speed reducer. Any one of 112 different assemblies can be furnished to meet exacting space requirements. Spiral-groove lubrication is provided on all sliding surfaces. The All-Position handwheel shown is standard, but mechanical, automatic and electric remote controls are available. Made by **Reeves Pulley Co.**, 1225 Seventh Ave., Columbus, Ind.

▲ For more details circle NED-758 J5 on enclosed inquiry slip ▲

VACUUM DEGASSING CHAMBER
removes gases from molten metal



Contaminant gases are removed from molten metal by high vacuum with model 400 degassing chamber. Unit is capable of processing up to 1000 lb of molten metal either in ladles or in crucibles at pressures below 200 microns. It is easily moved from one position to another and requires only connection to electric power and water line for operation. Chamber is particularly suited for degassing of copper and aluminum to increase conductivity and enhance such physical properties as tensile strength and elongation. Degassing of steel and high alloy steels increases their fatigue strength as well as elongation. Larger sizes of vacuum degassing equipment are available upon request. Made by **Centrifugal Casting Machine Co.**, 14 E. Fourth St., Tulsa, Okla.

▲ For more details circle NED-759 J5 on enclosed inquiry slip ▲

The Spray Gun INDUSTRY PREFERS

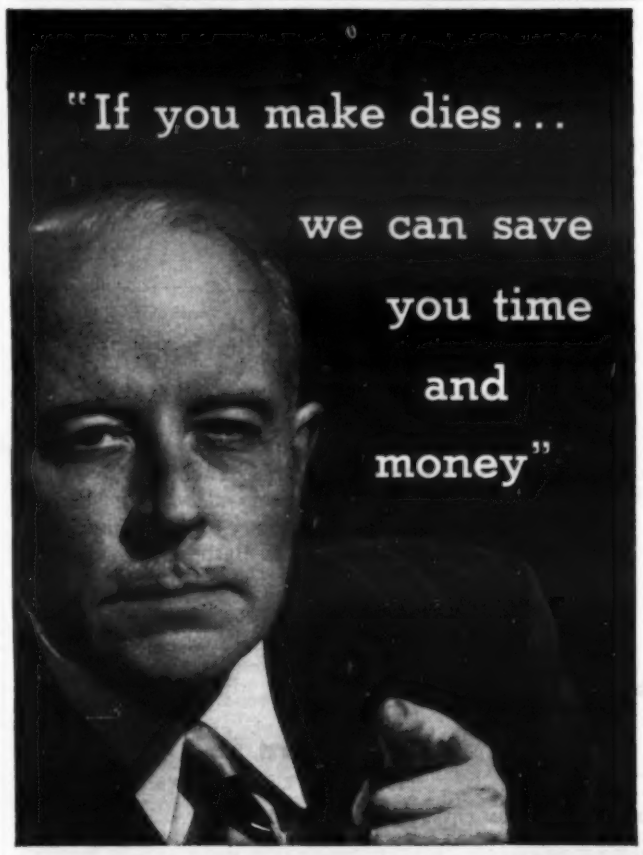
Model P-JGA-502
$33.50
F.O.B. Toledo, Ohio

The DeVilbiss P-JGA spray gun is a high speed, large capacity, production-type gun of exceptionally compact design. Its light weight, comfortable balance and easy action minimize fatigue. Has extra-capacity to handle even the heaviest spraying requirements. Sprays any finishing material. Can be fitted with various nozzles to produce a wide variety of spray patterns for regular and special uses. Write for full details.

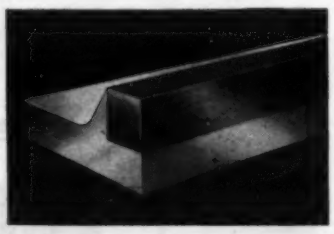
DEVILBISS — THE DEVILBISS COMPANY
Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario • London, England

▲ For more details circle NED-760 J5 on enclosed inquiry slip ▲



You save time because OK Composite Die Sections are carried in stock for immediate shipment. Available for Cutting, Trimming and Forming Dies Order them cut to length or in bars 125" long. There are 11 standard cross sections with both wide and narrow lands.



You save money because you can buy them at a price far below what it would cost you to make them yourself. The soft steel backing, to which uniformly hardened steel is clad, is drilled quickly and economically for dowel and screw holes. Adjustments for wear are equally simple.

Companies now using OK Composite Die Sections report great time and money savings over competitive products formerly used.

For new bulletin on OK Composite Die Sections and Clad Aluminum Bronze Wear Plates, write Dept. 42-H.

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

Manufacturers for the Metal Working Industry of:
Slitter Knives • Shear Blades • Work Rest Blades • Cut-Off Blades • Hardened Spacers Hardened Ways • Gibs • Ball Races • Bronze Ways • Wear Strips

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COST CUTTING EQUIPMENT

Send for catalog on Pressed Steel Equipment

FAB-WELD CORPORATION

SALMON & PICKWICK STS., PHILADELPHIA 34, PA.

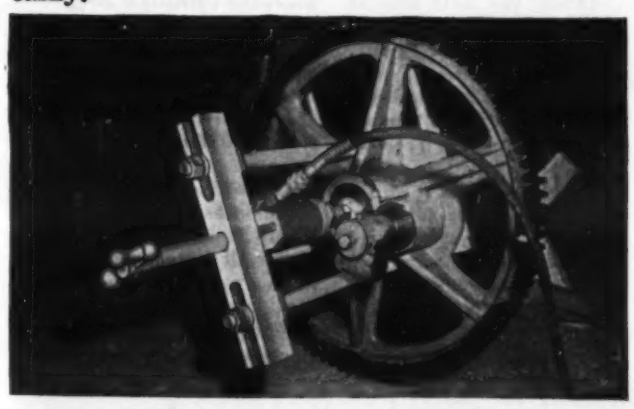
▲ For more details circle NED-762 J5 on enclosed inquiry slip ▲

DO YOU HAVE A PULLING PROBLEM?

Important information that will help save time, parts and tools on every job

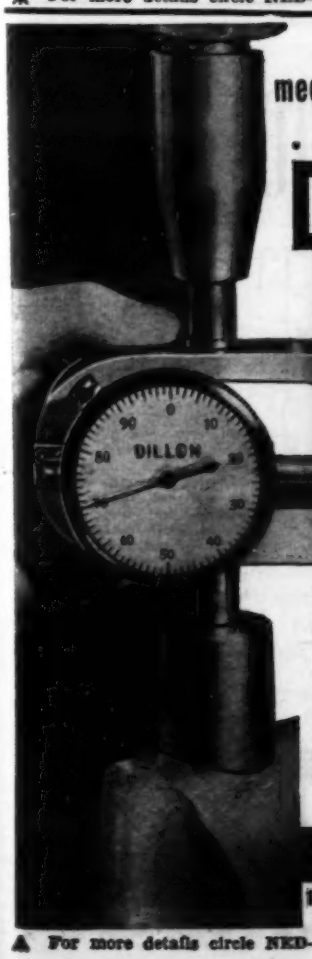
Pulling and installing jobs are in many cases an unnecessary headache. Without proper tools, expensive parts and equipment are broken and machinery is down for long periods of time.

This is unnecessary for there are inexpensive and practical pulling tools to do every job quickly and safely. We can help you by suggesting the right tool for the right job and telling you how to do it easily.



Pullers as small as your hand or up to a 100 ton hydraulically operated tool are available to you in the OTC line. Here a 50 ton hydraulic ram is pulling a drawing gear on a paper shearing machine. Get the answers to your pulling problems by writing OWATONNA TOOL COMPANY, 436 Cedar St., Owatonna, Minn.

▲ For more details circle NED-763 J5 on enclosed inquiry slip ▲



Where mechanical pressures count!

. . . depend on the

DILLON PRESSURE GAUGE

Checking the force exerted by electrodes of a spot welder is just one of many applications of a DILLON Pressure Gauge. It's a compact instrument that accurately measures compressive loads in *very small spaces* . . . flexes millions of cycles without loss of resiliency . . . sustains 25% accidental overload . . . incorporates jeweled dial indicator for extreme accuracy. Capacities from as low as 0-10 lbs. up to as high as 0-10,000 lbs. Low cost . . . immediate delivery!

Send for free illustrated catalog

W. C. DILLON & CO., Inc.

14628NE Keswick St., Van Nuys, Calif. (SUBURB OF LOS ANGELES)

▲ For more details circle NED-764 J5 on enclosed inquiry slip ▲

ABRASIVE BELT GRINDER
high speed extends belt life

Operation of the standard 1½ x 60-in. abrasive belt on the Superspeed model 150 grinder at speeds in excess of 10,000 sfpm extends the belt life and resists loading, even with nonferrous and nonmetallic materials. Operation requires less pressure than at a lower speed and work is easily guided. Device provides quick belt changing, automatic tensioning and automatic belt tracking. Belt angle is adjustable 90 degrees from flat to vertical. Grinder is offered in bench and pedestal models, equipped with ¾ or 1-hp motor, 115 or 230 v, single-phase, or ¾, 1 or 2-hp, three-phase. Made by **Anchor Machinery Co.**, 229 W. Orange Grove Ave., Burbank, Calif.

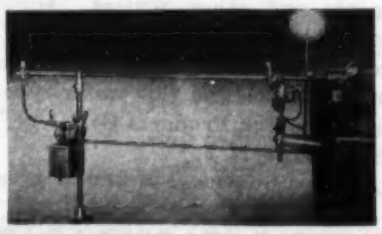
▲ For more details circle NED-765 J5 on enclosed inquiry slip ▲

ELECTRIC INDUSTRIAL CARS
have ¼ to ½-ton load capacities

Five electric industrial cars with automotive - differential drive are designed for use by manufacturing plants, airports, warehouses, institutions and supply depots. Line includes Westcoaster ½ - ton capacity Pick-Up, shown in photo; ½-ton capacity Servicar; ¼-ton capacity Courier for messenger service; the Executive personnel transport; and the 1/3-ton capacity Freight-A-Way for hauling and handling jobs. Payload area of unit shown is over 12 sq ft. Power is supplied by six heavy duty storage batteries through Baldor 36-v motor. This unit has stake pockets and tail gate for removable steel or wood-stake sides. All have automatic rechargers. Made by **West Coast Machinery, Inc.**, 1801 E. Charter Way, Stockton, Calif.

▲ For more details circle NED-766 J5 on enclosed inquiry slip ▲

HYDRAULIC BAR FEED
self-contained motor driven unit



Increase in range of sizes handled by the improved Hydra-Lite hydraulic bar feed for screw machines allows it to accommodate ⅜, ½, ⅝, ¾, 1⅛, 1¼ and 1½-in. diameters. Now a self-contained unit, it operates with an independent motor drive. Piston is returned to the rear of the stock tube semi-automatically. Made by **Boyar-Schultz Corp.**, 2001 S. 25th Ave., Broadview, Ill.

▲ For more details circle NED-767 J5 on enclosed inquiry slip ▲

POWER TRACTOR-SHOVEL
is heavy duty 2½-cu yd model

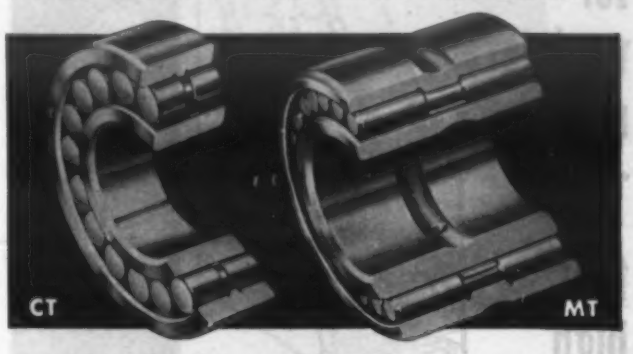
Either gasoline or diesel engine can be supplied as the power unit for this Super Speedall tractor - shovel which readily handles up to 2½-cu yd loads. It has a heavy duty power train which includes power-shift transmission, torque converter and four-wheel drive planetary axles. It features 30-degree tilt-up from ground position for maximum loading capacity, power steering and four-wheel Hydrovac booster brakes. Available accessories include a snow bucket, lift fork, crane hook, V and one-way snow plow, and a bulldozer blade. Made by **Pettibone Mulliken Corp.**, 4701 W. Division St., Chicago 51, Ill.

▲ For more details circle NED-768 J5 on enclosed inquiry slip ▲

CENTER GUIDED ROLLERS...

GIVE GUIDEROL® BEARINGS

EXTRA CAPACITY FOR EXTRA PERFORMANCE



Center guided rollers in GUIDEROL bearings are assured of constant alignment and their full complement eliminates capacity wasting cages. This design feature guarantees extra performance for GUIDEROL bearings in the MT and CT series. Completely interchangeable with ordinary needle and cylindrical roller bearing sizes. Write for full details.

Send for McGILL Catalog No. 52.

50th Anniversary

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle NED-769 J5 on enclosed inquiry slip ▲

For easiest maintenance use the versatile

GRINNELL-SAUNDERS DIAPHRAGM VALVE

The maintenance-saving design of Grinnell-Saunders Diaphragm Valves has accounted for important economies of labor and money, in hundreds of installations. The only part that will ever need replacement is the diaphragm, and that may last for years. To replace it is easy. You simply remove the four bolts holding the bonnet, leaving the body in the pipe line . . . remove the worn diaphragm, insert the new diaphragm . . . replace the bonnet and bolt it down. No refacing or reseating required . . . no packing glands to demand attention.

Originally perfected for air and water service, Grinnell-Saunders Diaphragm Valves are now widely specified for many other applications. They greatly reduce maintenance and replacement costs, especially in lines where corrosion, contamination, abrasion, clogging and leakage can be serious factors. Write today for the Grinnell-Saunders Diaphragm Valve Catalog . . . and assign your next valve problem to Grinnell.

GRINNELL

WHENEVER PIPING IS INVOLVED

GRINNELL COMPANY, INC.

EXECUTIVE OFFICES: PROVIDENCE, R. I.

SALES OFFICES AND WAREHOUSES IN PRINCIPAL CITIES

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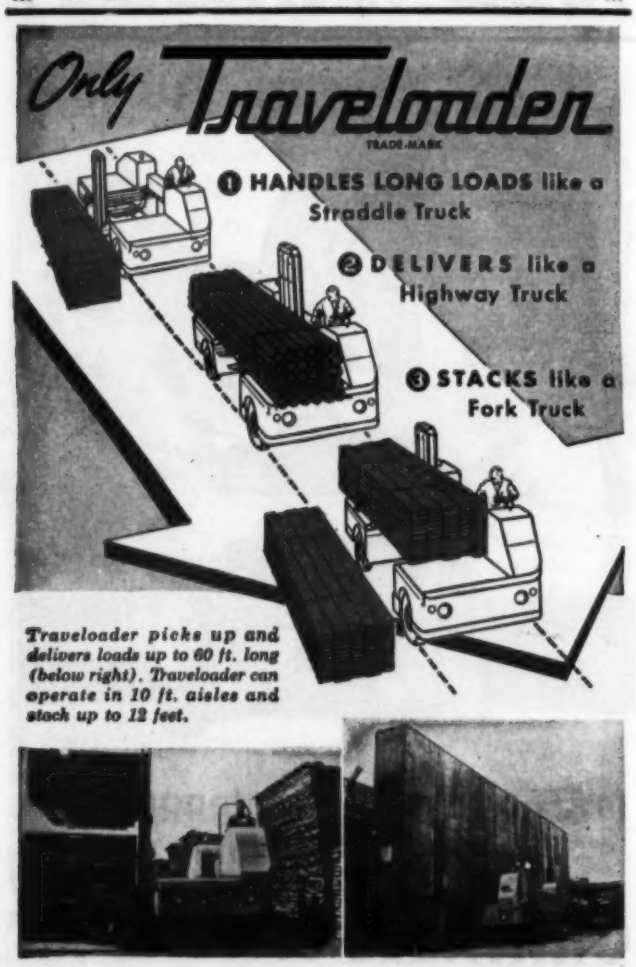
NOW... for work levels up to 15 feet high

Ballymore all-welded-steel Safety-Step Ladders available from one to twelve steps. Over 100 models to choose from. Portable—they roll. Up to 9 steps, they automatically lock to floor when you step on—9 steps and over, they have step-on brake casters at front. Send for catalog. The Ballymore Company, Wayne 3, Pa.

Ballymore Safety Ladders

Safety-Step LADDERS

▲ For more details circle NED-771 J5 on enclosed inquiry slip ▲



Traveloader picks up and delivers loads up to 60 ft. long (below right). Traveloader can operate in 10 ft. aisles and stack up to 12 feet.

Traveloader's unique ability to pick up loads from the side, carry them lengthwise and unload or stack them from the side, opens up an entirely new field in mechanized handling of long, unwieldy or bulky loads.

Thus this one machine, operated by one man, often replaces two or three handling units now used on such jobs. The cost savings are obvious.

It offers many other advantages. Weight is distributed equally over four wheels, permitting heavy load handling on floors or ground conditions not practical for other devices. It can stack up to 12 ft. from 10 ft. aisles. It can handle palletized or unpalletized loads with forks, or loads in a sling with a crane attachment. It delivers loads at speeds up to 30 MPH. Write for descriptive bulletin containing action photographs, construction details and specifications. The Baker-Raulang Co., 1245 West 80th St., Cleveland 2, Ohio.

Baker HANDLING EQUIPMENT

▲ For more details circle NED-772 J5 on enclosed inquiry slip ▲

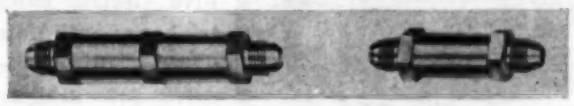
HEATING GAS GENERATOR converts gasoline to usable fuel

Ordinary white gasoline is converted to a clean, hot-burning, nontoxic vapor fuel suitable for all purposes served by natural, manufactured or bottled gas by means of compact Prest-O-Gas generator. This unit can be used wherever electricity is available and operates only when gas is being used. It will produce enough vapor from 5 gal of gasoline to operate cooking equipment and a hot water heater for a 2-week period. Present production is being exported, but expanded facilities will soon allow domestic marketing in this country. Engineering is being completed on larger models for heating and for both production and standby industrial service. Developed by **Pressweld, Inc.**, 825 S. Mahoning Ave., Alliance, O.

▲ For more details circle NED-773 J5 on enclosed inquiry slip ▲

HYDRAULIC RESTRICTOR VALVES designed for 3000-psi service

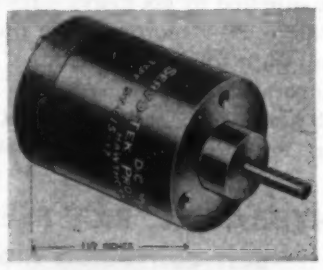
Available in either fixed one or two way types with either internal or external threaded ends, series 1100 restrictor valves are designed for 3000-psi hydraulic



service. They are made with aluminum, stainless or alloy bodies in ¼, ⅜ and ½-in. tube sizes. They operate in ambient temperature range of −65° to 275° F. One-way type meters in the restricted flow direction and permits full line flow in the free-flow direction. The two-way model meters in both directions of flow. Made by **Aircraft Products Co.**, 311 Church Rd., Bridgeport, Pa.

▲ For more details circle NED-774 J5 on enclosed inquiry slip ▲

PERMANENT-MAGNET MOTOR is only 1½ in. long and weighs 3 oz



Available with a range of operating voltages from 6 to 80 v, with no-load speeds from 3000 to 20,000 rpm and power output up to 1/70-hp, these midget permanent-magnet motors are usable in servo mechanisms, instruments and other devices. Housing, 1½-in. long, is machined from solid aluminum. This 3-oz motor incorporates ball bearings, anodized finish, rotatable brush holder and flat wafer-type commutator. Made by **Servo-Tek Products Co.**, Dept. ED, 1086 Goffle Rd., Hawthorne, N. J.

▲ For more details circle NED-775 J5 on enclosed inquiry slip ▲

FLEXIBLE STACKER-LOADER is portable, adjustable conveyor

A stacking unit has been combined with the Flex-Bend conveyor to permit one-man boxcar loading and stacking. Stacker unit, at right, is mechanically

raised and lowered under pushbutton control. The operator has only to guide the items into place and swing the boom right or left as the stacking proceeds. Conveyor consists of a drive car, center cars and a power traveler car. Drive car powers the flexible belt. Use of any number of center cars determines the length of the conveyor, and the power traveler car moves the conveyor back and forth. The belt is 18 in. wide and can bend on a 72-degree radius in either direction. Made by **R. T. Sheehan Co.**, 8070 N. Territorial Rd., Plymouth, Mich.

▲ For more details circle NED-776 J5 on enclosed inquiry slip ▲

Order From Your Parker Distributor—or Tube and Hose Fittings Division, Section 457, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio.

▲ For more details circle NED-777 J5 on enclosed inquiry slip ▲

Performance Proves 20% to 90% LESS VIBRATION with Veelos—the Balanced V-Belt

REGULAR v-belts have spots of varying density due to their construction. Normally, these spots are not apparent, yet they throw the belt out of balance when the drive is operating. As a result, vibration is created that can damage bearings, shafts and, most important, the finished work.

This is not true of Veelos v-belts.

Veelos is absolutely uniform throughout its entire length. Every link and stud is identical. The smooth, machine-cut sides and the laminated construction assure smooth, vibrationless power delivery. Veelos is perfectly balanced.

In case after case, installation of Veelos v-belts has reduced machine vibration 20% to 90%.

Proof that Veelos will reduce vibration can easily be demonstrated with an electronic vibration analyser. This analyser measures amplitude of vibration to as low as 2-millionths of an inch.

Fifteen minutes of your time is all that is required to show you with the electronic analyser that Veelos creates less machine vibration. Drop us a line for a demonstration.

MANHEIM MANUFACTURING & BELTING COMPANY
650 Manbel Street, Manheim, Pa.

Veelos is known as Veelink outside the United States

▲ For more details circle NED-778 J5 on enclosed inquiry slip ▲

The OFFICE VALET LOCKERETTE

Combines the best features of both lockers and coat racks

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

Improves health and morale — lowers absenteeism.

WRITE FOR BULLETIN OL-8

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

▲ For more details circle NED-779 J5 on enclosed inquiry slip ▲

MODEL "H"

ONE WAY

HEAVY DUTY COUNTERS by DURANT

Special ratchet positively prevents "part-way" tampering

These high speed Durant Counters are designed for hard usage and long service on production machines. Constructed of highest quality materials; oil-less bearings. Each counter rigidly tested before leaving the factory. Also available non-reset or with tumbler lock reset. Stroke or Rotary models.

See us at the Production Engineering Show, Booth 151

Send for Catalog 25

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
122 S. Water St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879 Count Everything

▲ For more details circle NED-780 J5 on enclosed inquiry slip ▲

YOU CAN ALWAYS "Hear-Here"

You are actually out of this world in a Burgess-Manning "HEAR - HERE" Booth — you hear every word distinctly regardless of noise around you.

- Air always fresh
- No corners to sweep
- New triangular configuration permits 7 space-saving multi-booth arrangements.
- Sturdy, steel construction
- Beautiful silver-gray hammered finish
- Easily installed — no maintenance

Model 45
35½" wide, 32" deep, 36" high. Price $100.00 f.o.b. Chicago. Light fixture $9.00 extra. Auxiliary floor stand $85.00 extra.

Write for Bulletin A-131 Other Models Available

Architectural Products Division of
BURGESS-MANNING COMPANY
5968 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Ceilings and Telephone Acousti-Booths

▲ For more details circle NED-781 J5 on enclosed inquiry slip ▲

Improves, Speeds Up Parts Finishing!

If your product involves metal, plastics, rubber, glass — you'll profit by Vapor Blast Liquid Honing! You can be *sure* of better finishing, cleaning, descaling, plating, painting — and lower costs.

**Vapor Blast Liquid Honing, the original Wet Blast Process, is making amazing surface-finishing records in industries like yours. May we prove it? Write for details, and the name of the VB representative nearest you.*

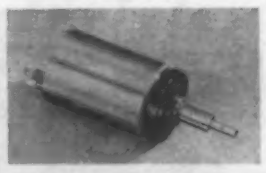
Vapor Blast is a Trade Mark • Liquid Honing is a Trade Mark

VAPOR V-B BLAST

VAPOR BLAST MFG. CO.
3063 WEST ATKINSON AVE.
MILWAUKEE 16, WIS.

▲ For more details circle NED-782 J5 on enclosed inquiry slip ▲

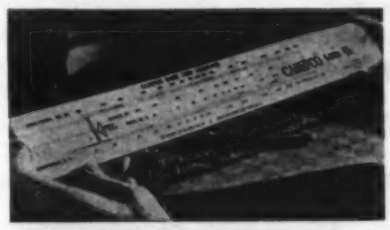
MINIATURE MAGNETIC CLUTCH for computers and servo systems



Developed as a component for precise applications in guided missiles, computers and miniature servo systems, model T507-1 miniature magnetic clutch has excellent torque characteristics and high speed engagement and disengagement times. Single-ended concentric input and output shafts permit mounting gearing at one end. Made by **Sterling Precision Instrument Corp.**, Instrument Div., Dept. NED, 34-17 Lawrence St., Flushing 54, N. Y.

▲ For more details circle NED-783 J5 on enclosed inquiry slip ▲

STYRENE SHEET offered in various thicknesses



A typical example of a small item that can be made from Campco impact styrene sheet is this slide rule, used to figure cost per sheet and weight per sheet of the material. Computations are based on S-300 and S-540 rubber modified styrene sheet. Material made and fabricated by **Chicago Molded Products Corp.**, Campco Div., 2719 N. Normandy Ave., Chicago 35, Ill.

▲ For more details circle NED-784 J5 on enclosed inquiry slip ▲

WIRE STITCHING MACHINE seals loaded corrugated cartons

Operating at about 200 stitches per minute, model HOHT Silverstitcher wire stitching machine securely fastens outer and inner flaps of full-overlap corrugated cartons after they have been filled. Particularly efficient in closing narrower sizes of full-overlap boxes, machine can also be used to fasten sides of five-panel folders, the outer and inner sections of telescope boxes and various double or triple slide boxes. Mechanical features are horizontal mounting of stitching mechanism and power-driven penetrating clincher. Operator merely positions the box. Made by **Acme Steel Co.**, 2822 Archer Ave., Chicago 8, Ill.

▲ For more details circle NED-785 J5 on enclosed inquiry slip ▲

AUTOMATIC PRODUCTION LATHE 20-hp main drive motor provides spindle speeds from 164-1880 rpm

Developed for quantity production of given workpiece, model 21 Mona-Matic lathe with a four-cut fully automatic work cycle features higher turning speeds and greater cutting capacity than previous Mona-Matics. Machine has 20-hp alternating current main drive motor. Direct drive to spindle is through hydraulic clutch and brake in the headstock. Interchangeable headstock gearing gives spindle speeds from 164 to 1880 rpm. Motor speeds are 600 and 1200 rpm.

Heart of multicycle programming control is cam stack which dictates particular operating sequence desired. Programmer regulates cutting tools, carriage feed and traverse, rear slide and air gage tracer. Up to six different feed speeds, three rough cuts and one finish cut are available. Dual template air gage tracer offers template control for last rough cut and final finish cut, with adjustable stop dimensioning of first and second rough cuts.

Independently powered chip conveyor for removing chips during operation of lathe is optional. Machine is made by **Monarch Machine Tool Co.**, Oak St., Sidney, O.

▲ For more details circle NED-786 J5 on enclosed inquiry slip ▲

NOTHING LIKE IT!
Obsoletes all other sanders

- Sensational dual-action.
- TWO sanders in ONE.
- A ROUGHER *fast* for heavy stock removal.
- A FINISHER for fine finishing, polishing.
- Saves up to 75% in dollars, time, abrasives (over other type sanders).
- Ideal for hundreds of sanding, grinding, buffing, polishing jobs . . . from Plexiglas to Castings.

Write for literature

DETROIT SURFACING MACHINE CO.
1265 E. EIGHT MILE RD., DETROIT 20, MICH.

▲ For more details circle NED-787 J5 on enclosed inquiry slip ▲

At Last...A Low Cost, Packaged Conveyor!

R-W "460"
Continuous Power Chain Conveyor

"460" chain-of-wheels principle gives smooth, friction-free movement through track.

- FLEXIBLE
- VERSATILE
- SAFE
- LOW COST
- NO ENGINEERING NEEDED
- INSTALL IT YOURSELF

Now you, too, can have all the advantages of an overhead conveyor in your plant. Richards-Wilcox' new "460" is the *practical, low-cost* conveyor for smaller plants and for supplemental use in large factories. It combines unusual flexibility, versatility and safety with special economies due to lower load limits. *And installation requires no special engineering or cumbersome superstructure . . . entire layout can be installed by your own personnel!*

R-W "460" is available *completely packaged* from stock throughout the U. S. in lengths up to 200 feet, with capacities of 8½ lbs. on 6-inch centers or 17 lbs. per lineal foot and 200 lb. drawbar pull. It's the ideal conveyor for supplemental use in assembly and production lines, and solves countless handling and movement problems where washers, degreasers, paint sprayers and similar operations are involved.

75 YEARS of QUALITY and SERVICE by RICHARDS-WILCOX

Write today for Catalog A-96

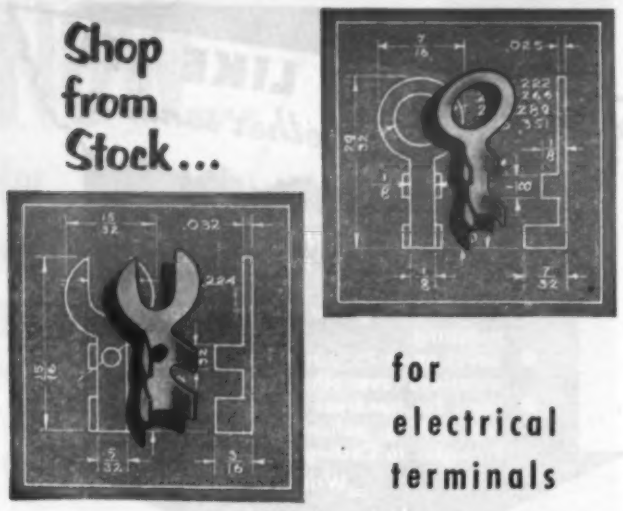
Richards-Wilcox Mfg. Co.
MATERIAL HANDLING DIVISION

435 W. THIRD STREET, AURORA, ILLINOIS

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS

▲ For more details circle NED-788 J5 on enclosed inquiry slip ▲

Shop from Stock...



for electrical terminals

We stock thousands of types and sizes of terminals for electric wires . . . and what we don't stock, we can make in a flash!

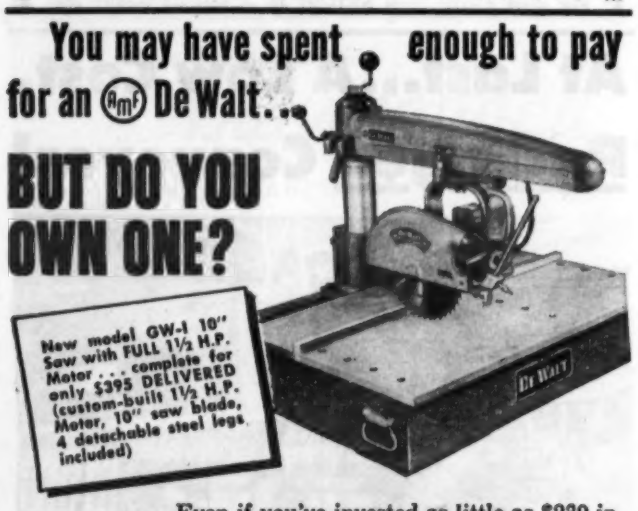
Modern factory facilities, plus years of engineering experience, makes P-M your best buy in terminals . . . either loose or tandem. Write for catalog.

P-M PATTON-MacGUYER COMPANY
16 Virginia Ave., Providence 5, R. I.

▲ For more details circle NED-789 J5 on enclosed inquiry slip ▲

You may have spent enough to pay for an AMF De Walt...

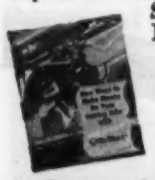
BUT DO YOU OWN ONE?



Even if you've invested as little as $239 in shop equipment you may not be enjoying the benefits of a De Walt®. One low-cost AMF De Walt...

- Does ALL the work of a swing saw, straight line cut-off and miter saw, table-type rip saw, dado machine, shaper plus many others.
- Saves you up to 60% in capital equipment investment.
- Saves you up to 75% in floor space.

These and many other AMF De Walt advantages are explained fully in our *free* new idea book for industry. SEND FOR IT TODAY! Write AMF De Walt, Dept. NED-9, Lancaster, Pa.



FREE! Send for new idea book on industry!

Another AMF Product DE WALT POWER TOOLS

▲ For more details circle NED-790 J5 on enclosed inquiry slip ▲

Only 12 minutes to drill 6¾" holes through 7½" reinforced concrete with TRUCO WATER SWIVEL and TRUCO SWIVEL DIAMOND DRILL BITS

Truco combination cut drilling time from half-a-day to 12 minutes per hole in department store water mains installation. Truco Swivel Diamond Bits in Truco Water Swivel drill reinforced concrete, granite, marble, brick, ceramic tile, etc. at amazing speed. Use with portable or stationary drills. Indispensible to masons, electricians, plumbers, maintenance crews. Can easily save entire cost on first job. Write for folder.

WHEEL TRUEING TOOL COMPANY
61-3200 West Davison Avenue • Detroit 38, Michigan

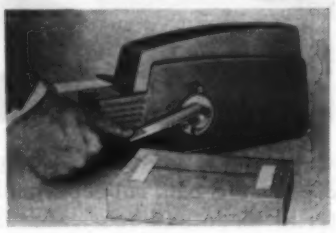
▲ For more details circle NED-791 J5 on enclosed inquiry slip ▲

METAL TESTER checks metallurgical characteristics

Incoming inspection of raw stock, spot or complete checking of semifinished and finished parts and sorting of accidental mixups of metal parts are typical uses of this model CE Cyclograph. A known acceptable part is inserted in the test coil as a standard in adjusting this testing instrument. Unknowns subsequently placed in the coil give the same meter reading if they are the same as the standard, and a different reading if they are not. Made by **J. W. Dice Co.**, 1 Engle St., Englewood, N. J.

▲ For more details circle NED-792 J5 on enclosed inquiry slip ▲

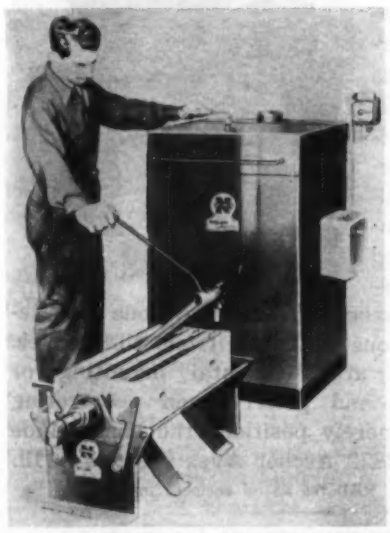
GUMMED TAPE DISPENSER accommodates ½ to 1½-in. widths



Five-hundred-foot rolls of water soluble gummed kraft tape from ½ to 1½ in. wide can be dispensed in preset 2½ to 8-in. lengths with a single stroke of the lever on the Derby 400 package sealer. Longer lengths can be obtained with repeated strokes. Tape cannot buckle or catch against the knife which cuts the tape automatically upon release of the push-down lever. Water tank and brush are easily removed and cleaned. Refilling is from the front without removing the tank. Made by **Derby Sealers, Inc.**, Penton St., Derby, Conn.

▲ For more details circle NED-793 J5 on enclosed inquiry slip ▲

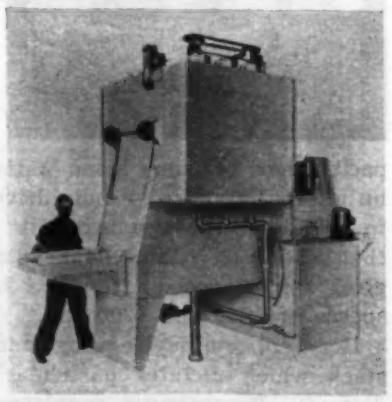
METAL REMELTER capacity range is 600 to 10,000 lb



Efficient, rapid melting of white metal and all alloys that melt below 1000° F is possible with this metal remelter. Furnace is charged from the top through an insulated hinged cover, and pot capacity is 600 to 10,000 lb. Drip-proof bottom-pouring valve is located within the crucible so that it cannot "freeze" and is always easy to operate. Operating on gas, electricity or oil, unit will melt a full pot in about 2 hr from a cold start. Made by **Nolan Corp.**, 1213 E. Dominick St., Rome 2, N. Y.

▲ For more details circle NED-794 J5 on enclosed inquiry slip ▲

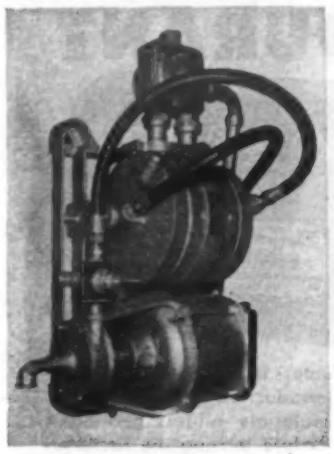
CONTROLLED-ATMOSPHERE FURNACE for heat treating is semiautomatic



Of bottom charging design, this forced-convection controlled-atmosphere heat treating furnace operates semiautomatically, occupies a minimum of floor space and can be moved readily from one place to another. Suitable for hardening, carburizing, carbonitriding and Martempering, this gas-fired furnace can handle gears, cams, castings, wheels and all small parts. Pushbutton controlled and pneumatic powered, furnace can be changed over quickly from one heat treating process to another. Handling timing and transfer are automatic from charging to unload, so that a new charge can be started into the furnace as soon as the previous load reaches the quenching door. Made by **Denver Fire Clay Co.**, Industrial Furnace Dept., 2315 Blake St., Denver 5, Colo.

▲ For more details circle NED-795 J5 on enclosed inquiry slip ▲

HOT SPRAY cuts rejects on production lines



CIRCAFLO 600

Paint department bottlenecks are said to be eliminated with the introduction of the uniform viscosity and controlled temperature application of the Spee-Flo hot spray process. Standard industrial finishes can be expected to give better coverage and more mileage when used with the new, all electric Circaflo 600. One coat of heat reduced, high solids film replaces two coats, for a faster sag-proof application. Simple and maintenance free, the Circaflo is now in production by the Spee-Flo Company.

SPEE-FLO Corp. DEPT. C6 • HOUSTON 2, TEXAS
Advt. 5487

▲ For more details circle NED-796 J5 on enclosed inquiry slip ▲

Research-Quality D-C

Extreme stability over long time periods despite load and line-voltage variations or transients . . . that's the prime requirement for a laboratory or quality-control d-c power supply. CEC's new Type 3-132 Low Voltage Regulated Power Supply combines this high precision with unusual convenience and adaptability. It is self-contained, usable anywhere there is 115-volt, 50/60/400-cycle power.

CONDENSED SPECIFICATIONS . . .

Output ..... 0-15 volts d-c at 1 amp (max)
Stability ..... Less than 5 mv/hr drift
Voltage Regulation 0.1%
Ripple ..... Less than 1 mv peak-to-peak

For complete specifications, send today for Bulletin CEC1543-X3

Consolidated Engineering *Corporation*
ELECTRONIC INSTRUMENTS FOR MEASUREMENT AND CONTROL
300 North Sierra Madre Villa, Pasadena 15, California

Sales and Service Offices Located in: Albuquerque, Atlanta, Buffalo, Chicago, Dallas, Detroit, New York, Pasadena, Philadelphia, Seattle, Washington, D. C

▲ For more details circle NED-797 J5 on enclosed inquiry slip ▲

FREE BULLETIN

REEVES fractional HP Vari-Speed **MOTODRIVE**

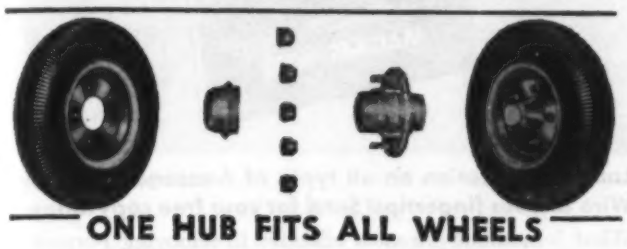
Use this data-filled variable speed drive bulletin in selecting your *exact* needs from 112 assemblies of this compact, versatile REEVES unit. ¼, ½ or ¾ hp. models give accurate speeds from 3 to 4660 rpm's—within a 2:1 to 10:1 speed range. Write Department ND19-M543

REEVES PULLEY COMPANY • COLUMBUS, INDIANA
Division of RELIANCE Electric and Engineering Co.

▲ For more details circle NED-798 J5 on enclosed inquiry slip ▲

DEMOUNTABLE HUB WHEELS
(AUTOMOTIVE TYPE)

INVESTIGATE DICO'S NEW LINE . . .



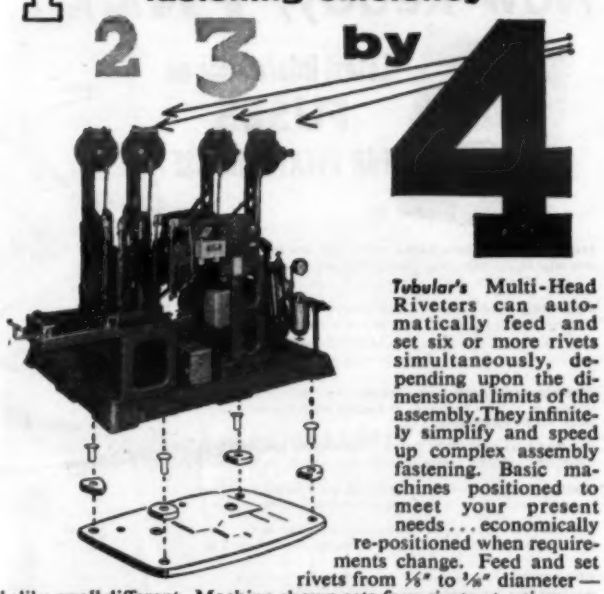
ONE HUB FITS ALL WHEELS

4.80/4.00 x 8	2.50"	Standard Rim
4.80/4.00 x 8	3.75"	Wide Base Rim
5.00 x 8	3.75"	Standard Rim
5.00 x 8	4.25"	Wide Base Rim
5.50 x 8	4.25"	Wide Base Rim

DICO
WRITE FOR NEW DICO WHEEL CATALOG
DES MOINES 5, IOWA

▲ For more details circle NED-799 J5 on enclosed inquiry slip ▲

1 multiplies fastening efficiency 2 3 by 4



Tubular's Multi-Head Riveters can automatically feed and set six or more rivets simultaneously, depending upon the dimensional limits of the assembly. They infinitely simplify and speed up complex assembly fastening. Basic machines positioned to meet your present needs . . . economically re-positioned when requirements change. Feed and set rivets from 1/8" to 1/16" diameter—all alike or all different. Machine shown sets four rivets at a time, assembles 475 units per hour, reduces fastening costs about 50%.

You can benefit from *Tubular's* 85 years of fastening experience . . . rapid delivery from ample stocks of rivets . . . competent, confidential engineering counsel. Send blueprint or sample assembly to *Tubular* today.

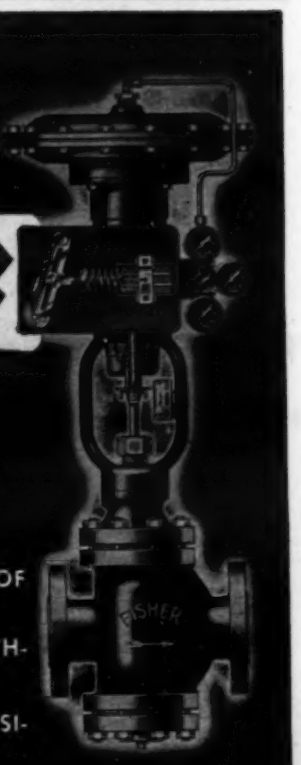
Tubular Rivet & Stud Company
WOLLASTON (QUINCY) 70, MASS.
BRANCH OFFICES: BUFFALO • LOS ANGELES CHICAGO • NASHVILLE DALLAS • NEW YORK CITY DETROIT • PHILADELPHIA INDIANAPOLIS • ST. LOUIS SO. SAN FRANCISCO

See your local classified directory for phone numbers.

▲ For more details circle NED-800 J5 on enclosed inquiry slip ▲

FISHER
POSITROL

FOR ACCURATE POSITIVE VALVE POSITIONING



FEATURES
- COMPACT — SIMPLE RUGGED
- 5 YEARS FIELD SERVICE
- EASILY ADJUSTABLE
- FORCE BALANCE TYPE OF POSITIONER
- AVAILABLE WITH OR WITHOUT BY-PASS
- USABLE AS REMOTE POSITION INDICATOR
- FOR DIRECT OR REVERSE ACTION VALVES

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

Write for Bulletin E-3500

▲ For more details circle NED-801 J5 on enclosed inquiry slip ▲

New Processes and Materials

TUBULAR NYLON BARS
used for making large wear parts

Centrifugally cast, accurately turned and concentrically bored nylon tubular bars are available for fabricating large diameter bearings, thrust washers, wheels, gears and seals. Use of the heavy wall tubing permits making parts at a lower cost than processes involving machining from solid bars. Outside diameters range from 2 to 10 in. and wall thicknesses from 3/8 to 1 in. Standard lengths are 8 and 13 in. Made by **Polymer Corp. of Pennsylvania**, 438 Walnut St., Reading, Pa.

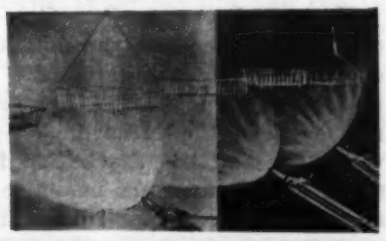
▲ For more details circle NED-802 J5 on enclosed inquiry slip ▲

TARPAULIN FABRIC
made of neoprene treated nylon

Nylon and neoprene are combined in Lite-Cote tarpaulin material, a high strength, waterproof, weather resistant fabric that weighs less than half as much as a cotton tarpaulin. Durability and dimensional stability are furnished by the nylon, while the neoprene synthetic rubber on both sides resists grease, oil, chemicals, mildew, rot, sunlight and climate extremes. All hems and seams are vulcanized, and tarpaulins are easily repaired in a manner similar to repairing an inner tube. Two fabric weights are available, each in black or heat-reflecting aluminum finish. Made by **Stern & Stern Textiles, Inc.**, Lite-Kote Div., Hornell, N. Y.

▲ For more details circle NED-803 J5 on enclosed inquiry slip ▲

ELECTROSTATIC PLASTIC SPRAYING
applies vinyl to baskets and racks



Vinyl plastisols are now electrostatically spray-coated on fabricated wire baskets, dish drainer racks, display racks and other wire goods on a production basis. Method is reportedly twice as fast as conventional dip coating, eliminates running and produces good coating. Process utilizes Ionic guns with a new Atomic nozzle and powered by a 140-kvp high potential power supply. Electrostatic spray equipment is made by Scientific Electric, Garfield, N. J. Plastisol for electrostatic spray application is formulated by **Metal & Thermit Corp.**, United Chromium Div., 101 E. 41st St., New York 17, N. Y.

▲ For more details circle NED-804 J5 on enclosed inquiry slip ▲

ALLOY FLUXES
for arc welding of low alloy steels

Wide range of special requirements encountered in welding low alloy steels are met by line of agglomerated fluxes for automatic submerged arc welding. They are individually compounded for each job. Alloying elements can be changed as required by the particular job. Fluxes can be compounded to produce weld metal containing the following elements in varying amounts; chromium, molybdenum, vanadium and nickel. Applications include welding chrome-moly pipe for high temperature service; steels such as ASTM A335-53; alloys P-2, P-3, P-3b, P-11, P-12, P-21 and P-22; and specification A-301-53, grades A and B. Alloy deposits can be produced with same hardness or tensile strength characteristics as the heat treated plate. Available from **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

▲ For more details circle NED-805 J5 on enclosed inquiry slip ▲

Bring Down Your Cost of Counting and Filling Screws and Nails with VIBRACOUNT

Screws and nails can now be packeted at a reduced labor cost, per thousand envelopes or plastic capsules, with Brown Bag's Vibracount Machine.

West Coast Rep.: Peter D. Bowley & Assoc., 210 Mississippi St., San Francisco, California

BROWN BAG FILLING MACHINE CO., INC.
FITCHBURG, MASSACHUSETTS

▲ For more details circle NED-806 J5 on enclosed inquiry slip ▲

GRIPPER WOVEN WIRE SLINGS

• GRIP BETTER • LAST LONGER
• REDUCE LOAD DAMAGE
• INCREASE SAFETY

GRIP BETTER—Gripper Woven Wire Slings are completely flexible . . . grip better because they wrap all around your load and provide an extra broad bearing surface, in either BASKET or CHOKE HITCH.

LAST LONGER—All-Metal construction means long life, freedom from damage even by sharp edged loads. Special alloys are available for use where high resistance to corrosion or heat is required.

REDUCE LOAD DAMAGE—The flat bearing surface will not cut into or score material being handled, because Gripper Slings bend across their width. Better grip prevents shifting of the load.

INCREASE SAFETY—Gripper Slings will not kink or tangle . . . loose ends do not cause dangerous whipping or snarling. Smooth woven wire construction eliminates sharp loose strands. Every sling PRE-TESTED to meet loading specifications.

GRIPPER Woven Wire SLINGS are available in standard lengths and widths . . . and capacities up to 100,000 lbs. Special sizes on request. See your materials handling or mill supply distributor. OR, write for FREE catalog and name of nearest distributor.

The Cambridge Wire Cloth Co.
Dept. R • Cambridge 9, Md.
WIRE CLOTH — METAL CONVEYOR BELTS — SPECIAL METAL FABRICATIONS
OFFICES IN PRINCIPAL INDUSTRIAL CITIES
DISTRIBUTORS—write for open territory data!

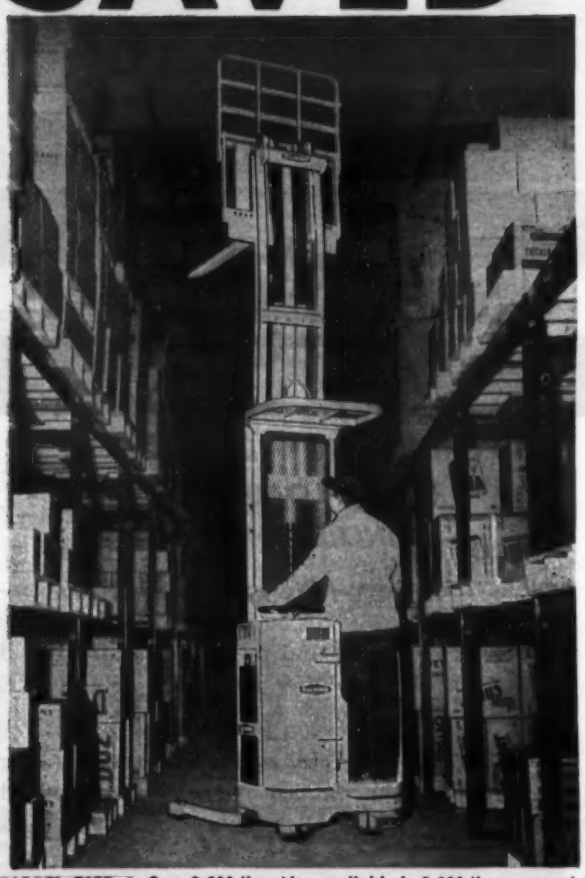
▲ For more details circle NED-807 J5 on enclosed inquiry slip ▲

Newly published Bulletin 10051-D lists, illustrates and describes the complete line of Oilgear Fluid Power variable and constant delivery pumps, constant and variable displacement motors, Any-Speed Transmissions, feed pumps, Oilgearducers, cylinders, valves and accessories. Of especial interest is the page on controls. This bulletin reveals the salient advantages that have made Oilgear equipment the *preferred* equipment wherever Fluid Power is used. Gives features of each unit, together with essential data on functions, design and application. Many essential specifications are included. This is a condensed yet comprehensive 12-page catalog from which you can derive vital engineering data. It affords an excellent comparison of different types of equipment and will enable you to discover the Fluid Power units best fitted to your needs. Write for a copy of Bulletin 10051-D. It's free.

THE OILGEAR COMPANY, 1582 W. Pierce St., Milwaukee 4, Wis.

▲ For more details circle NED-808 J5 on enclosed inquiry slip ▲

SAVED



MODEL E2ST • Cap. 2,000 lbs. Also available in 3,000 lb. cap. model.

6 FT. in EVERY AISLE

with

RAYMOND *Electric* TIERING TRUCK

ANOTHER LARGE WAREHOUSE actually halved its aisle space with a RAYMOND Tiering Truck! 12-ft. aisles were reduced to 6-ft. Result: more useable storage space.

You can make space savings in your own plant or warehouse. Because this truck actually right-angle tiers 4-ft. pallet loads from aisles only 6-ft. wide.

RAYMOND TIERING TRUCK . . . operates in narrow aisles due to its short length and patented* off-set drive wheel with 200° turning arc. Lightweight permits use on low-capacity elevators, floors. 51" free lift enables loads to be stacked in low-ceiling areas, truck trailers, boxcars without increasing overall height. Truck is equipped with new power unit that opens up like a book for fast, easy servicing.

*PATENT NO. 2,564,002

The RAYMOND CORPORATION
4141 Madison St., Greene, N.Y.

GET FULL DETAILS!

( ) Please send Bulletin 830 describing 2,000 lb. cap. Tiering Truck.
( ) Please have your representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-809 J5 on enclosed inquiry slip ▲

New Literature and Catalogs

Motor Drives

Reliance Electric & Engineering Co.—"Sky High to Ocean Blue" is title of 12-page illustrated brochure A-2400 that explains the planning and development that goes into engineered drive systems; custom application of nonstandard motor drives; and actual use of a variety of Reliance motors, drives and electronic controls for Federal and marine service. Data are given on V*S Drive conversion units to provide for the direct current adjustable speed requirements from alternating current systems of cargo winches, cranes, towing drives and similar equipment.

▲ For more details circle NED-810 J5 on enclosed inquiry slip ▲

Solenoid Valves

Magnatrol Valve Corp.—"Magnetic Valves" is a 20-page compilation of data sheets on line of solenoid operated valves for the control of water, oil, brine, chemicals, solvents, air, gas and steam. Tables of fluid discharge and friction drop aid in design, engineering and application of these electrically controlled valves.

▲ For more details circle NED-811 J5 on enclosed inquiry slip ▲

Gear-Making Data

Sier-Bath Gear & Pump Co.—44-page 50th Anniversary brochure is a photographic portrayal of gear making. It describes the methods and techniques used by this company to produce all types of gears to customer specifications. Engineering graphs and tables, embodied in a Gear Design Formula section, provide valuable reference material for engineers.

▲ For more details circle NED-812 J5 on enclosed inquiry slip ▲

Packaging & Carloading Guide

Signode Steel Strapping Co.—Usable facts that can help you lower freight bills, end pilferage, reduce loss and damage claims, minimize container costs, and speed packaging and shipping are presented in 44-page illustrated "Packaging and Carloading Guide." Booklet shows how to apply strapping to containers, brace open top and close freight car loads and barricade car doorways to protect all types of packaged and bulk commodities. A complete line of hand and power strapping tools and machines, strapping, seals and accessories is described.

▲ For more details circle NED-813 J5 on enclosed inquiry slip ▲

Power Roof Ventilators

Hartzell Propeller Fan Co.—Dimensions, specifications and performance data on the complete line of Hartzell roof ventilators are presented in 12-page illustrated catalog A-112. Details are included on two new models, the efficient low-priced Vertijet roof ventilator and the Stack Cap for simple duct systems. Pent houses are available for 12 to 60-in. diameter standard or Lo-Noise fans with capacities up to 64,300 cfm.

▲ For more details circle NED-814 J5 on enclosed inquiry slip ▲

Teflon Stock & Fabrication

United States Gasket Co.—Illustrated bulletin 300 is catalog on Teflon stock and custom fabricating service. Chemical, thermal, electrical and mechanical properties of this plastic material are listed. Included are dimensions, weights and tolerances of Teflon sheets, tape, molded cylinders, bars, extruded tubing and rods, electrical spaghetti, beading and extruded shapes.

▲ For more details circle NED-815 J5 on enclosed inquiry slip ▲

Air Line Lubricators

Ingersoll-Rand Co.—Lubricators described in 8-page illustrated bulletin 4169 are suitable for use with pneumatic tools ranging from smallest hand-held air tools to largest quarry-type drills. Installed directly in hose line, ½ and 1-pt lubricators handle tools using 14 to 200 cfm of air. Larger fixed-mounting units have capacities up to 12 qt.

▲ For more details circle NED-816 J5 on enclosed inquiry slip ▲

Shielding Screen Rooms

Erik A. Lindgren & Associates—American 40 double-shielded screen rooms for research and testing purposes are subject of 4-page illustrated bulletin. Providing attenuation ratings of 120 decibels in bronze and 140 decibels in copper, rooms are available in sizes from approximately 7 x 6½ x 8 ft to 30 x 10 x 8 ft.

▲ For more details circle NED-817 J5 on enclosed inquiry slip ▲

FREE—84-PAGE MAGNET WIRE HANDBOOK

Latest information on all types of Anaconda Magnet Wire at your fingertips! Send for your free copy today.

What 3 methods are *most* effective in removing Formvar insulation? How does Vitrotex* Magnet Wire give you greater latitude in design? What about enamel, cotton, nylon wire and all the others? Here—in one 84-page catalog—is the information you are looking for—both technical and general—on *all* types of Anaconda Magnet Wire. Get your copy today, free of charge. Just write: Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

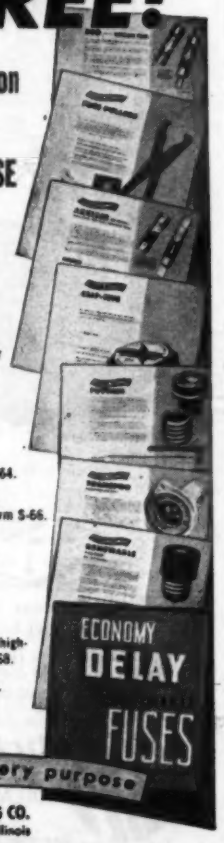
*Reg. U. S. Pat. Off. 55275

MAGNET WIRE
ANACONDA®

▲ For more details circle NED-818 J5 on enclosed inquiry slip ▲

Now Ready, FREE!

Latest Information on **FUSES** FOR EVERY PURPOSE



ECONOMY DE-LAY RENEWABLE FUSES—Give safe and dependable time-delay on overloads. Inexpensive renewal links easily replaced. 16-pg book, S-40.

RENEWABLE PLUG FUSES—For circuits where repeat blows are experienced. Only inexpensive drop-out link is destroyed. Form S-67.

ARKLESS Mechanical Indicating One-Time Cartridge Fuses—Famous for consistent performance; equipped with a positive mechanical indicator. Ask for Form S-65.

CLEARSITE PLUG FUSES—Give a positive, clear indication of their condition at all times. No hunting or guessing which fuse has blown. Ask for Form S-63.

ECO ONE-TIME CARTRIDGE FUSES—Unexcelled for uniformity of current-time operation. Exceed all safety requirements. Ask for Form S-64.

FUSTATS—Fuses to which a thermal cut-out and a tamper-proof base have been added, to resist tampering and stop over-fusing. Ask for Form S-66.

CLIP-TITE—Insures tight electrical contact of fuse clips, thus eliminating one of the principal causes of heating. Ask for Form S-62.

FUSE PULLERS—For safe handling of fuses. Made of finest black vulcanized fibre. Withstand breakdown tests of 35,000 volts, dry. Ask for Form S-61.

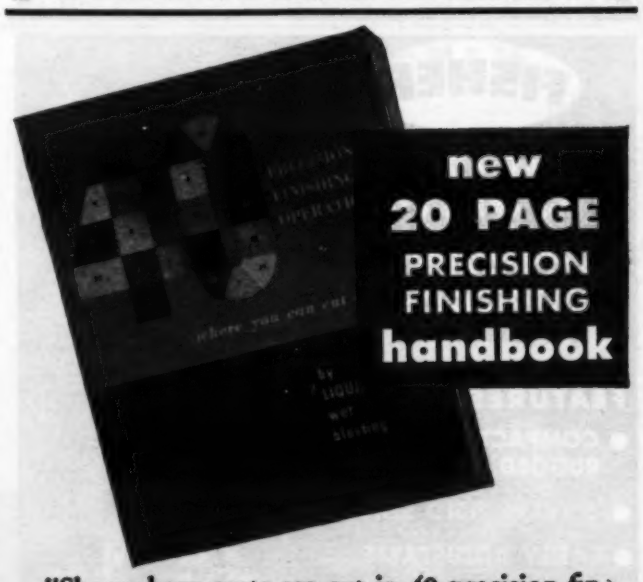
TRANSPRO RECEPTACLE AND FUSE—A sign accessory, for use in high-voltage circuits of outdoor and indoor gas-tube signs. Ask for Form S-68.

Ready NOW-NEW ECON DUAL-ELEMENT CARTRIDGE FUSES. 12-pg book. For controlled, longer time delay. Ask for Form S-60.

ECONOMY fuses for every purpose

ECONOMY FUSE & MANUFACTURING CO.
2717 Greenview Avenue Chicago 14, Illinois

▲ For more details circle NED-819 J5 on enclosed inquiry slip ▲

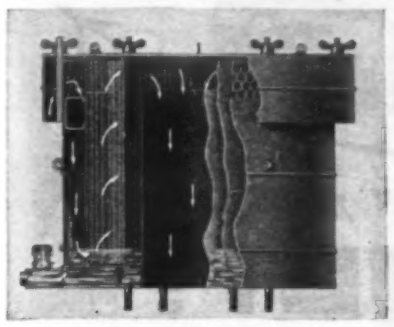


"Shows how costs are cut in 40 precision finishing operations through use of Liquamatte Wet Blasting. Write for a free copy of Bulletin 451-D."

WHEELABRATOR
CORPORATION
(Formerly American Wheelabrator & Equipment Corp.)
508 S. Byrkit St., Mishawaka, Indiana

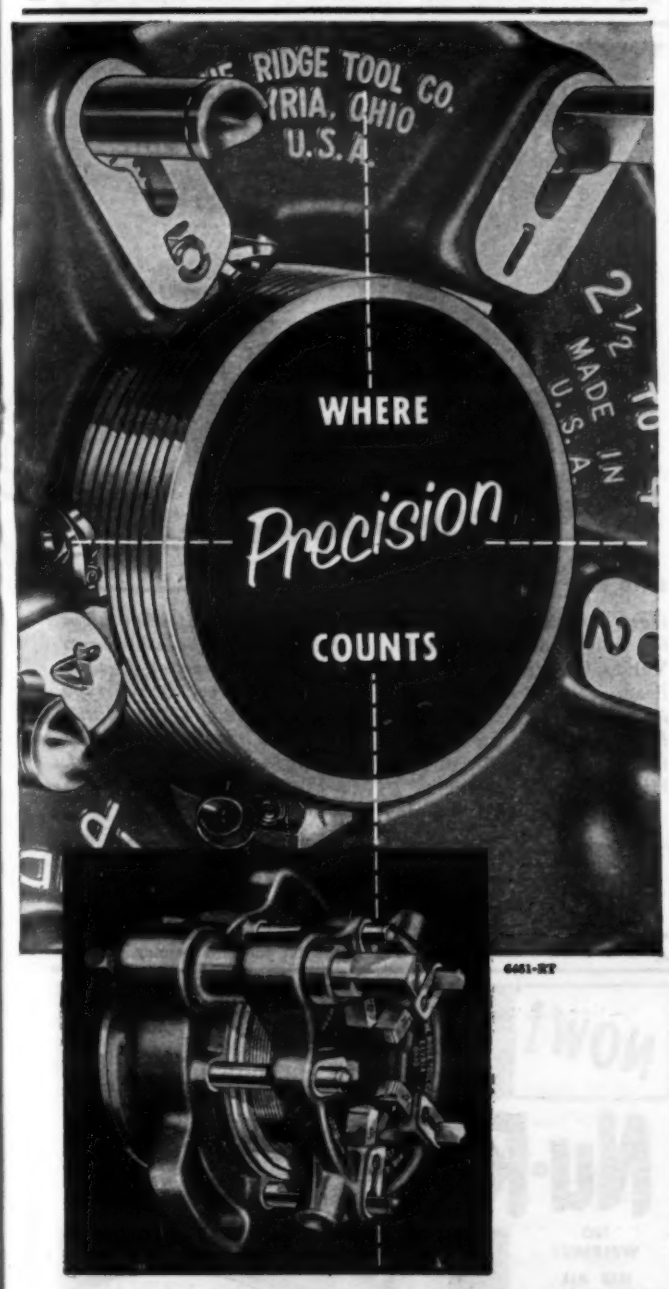
▲ For more details circle NED-820 J5 on enclosed inquiry slip ▲

AIR CLEANER
oil wash removes dirt from air—protects engines, compressors



By scrubbing air in a bath of oil, Air-Maze oil bath filters give added life to engines, compressors and pressure blowers. An oil-washed screen traps any remaining dust, passing only clean, oil-free air. Abrasive dust and dirt can't get through to wear out rings, ring grooves, valves, and liners. An oil recycling method makes oil available at low flows so that the element continues to get a wash even when the engine is running at 10 to 15% of capacity. When the engine is shut off, the oil acts as a seal against air and moisture. Also available with built-in silencing chamber. For additional information, write for bulletin No. FX654, **Air-Maze Corporation,** 25000 Miles Avenue, Cleveland 28, Ohio. *Advt.*

▲ For more details circle NED-821 J5 on enclosed inquiry slip ▲



...use the RIDGID 4P

2½" TO 4" GEARED PIPE THREADER

Here's a work-saving precision tool that cuts accurate threads on 2½" to 4" pipe *every time.* It's easy to handle . . . easy to use . . . foolproof.

Operated manually or with power, the RIDGID 4P reduces time, sweat and scrap in any piping job. Balanced handles simplify carrying and starting on pipe. Mistake-proof workholder sets to size *before* tool is put on pipe . . . has only one screw to tighten . . . no bushings.

For precision and speed . . . you can't beat the RIDGID 4P!

See your local supplier . . . or write direct for catalog.

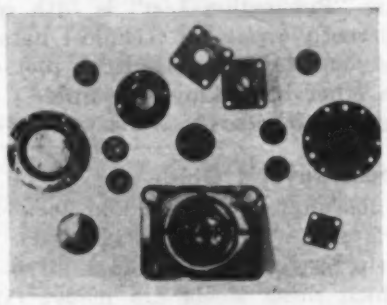
RIDGID
WORK-SAVER PIPE TOOLS

MANUFACTURED BY THE RIDGE TOOL CO. • 497 CLARK ST. • ELYRIA, OHIO

▲ For more details circle NED-822 J5 on enclosed inquiry slip ▲

New Processes & Materials

TEFLON DIAPHRAGMS
withstand heat, acids and caustics



Made from chemically inert Fluoroflex-T (Teflon), special-purpose diaphragms for valves, controls, piping and process equipment are now available. They are recommended for applications involving acids and caustics, foods and drugs, hot lacquers, steam, synthetic oils, jet fuels, gases and vapors under extreme conditions of temperature. Made by **Resistoflex Corp.,** Dept. NED, Belleville 9, N. J.

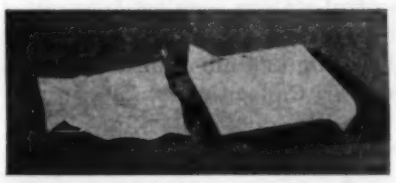
▲ For more details circle NED-823 J5 on enclosed inquiry slip ▲

AIR ENTRAINING AGENT
for concrete and concrete products

Added to concrete in properly controlled amounts, Entrex air entraining agent is reported to improve the durability of the concrete; give it added resistance to disintegration by freezing, and thawing and deicing salts; improve workability; eliminate bleeding, segregation and honeycombing; and yield a fine surface texture. It also lends high compressive strength and low water absorption. Made by **Preco Chemical Corp.,** Dept. 4, Garden City Park, N. Y.

▲ For more details circle NED-824 J5 on enclosed inquiry slip ▲

METAL FINISH COATING
does not crack with bending



Poly-Ep Platon is a poly-amide epoxy finish that can be applied to any clean metal surface without a prime coat. It has good adhesion qualities and presents a very hard surface, yet is flexible and will not crack or chip under impact or bending. Application can be by brush, spray, applicator or dipping. The two-component finish is mixed in equal parts as required. When mixed it has a very low viscosity which is maintained in the container for several hours. It dries dust-free in 30 minutes and can be handled in 2 hours. Forced drying at 130° F for 30 minutes produces a hard, free-sanding surface. Finish is available in clear and colors, including metallic, in gloss or satin finish. Made by **Minnesota Platon Corp.,** Dept. NE, 1511 Highway No. 23 N. E., Pipestone, Minn.

▲ For more details circle NED-825 J5 on enclosed inquiry slip ▲

FREE . . .

NEW Danly Die Spring Catalog Gives You NEW Flexibility In Die Design!

3 complete lines . . .
OVER 200 SPRINGS TO CHOOSE FROM!

Die spring selection will be faster, more exact if you've got this new Danly catalog handy. It contains all the facts you need, plus dimensions, spring rates and pressure deflection data . . . on the new, expanded Danly Die Spring line. There's no question about performance either because Danly die springs provide longer life and more predictable accuracy.

Write today for your free copy . . .

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie • Chicago 50, Illinois

▲ For more details circle NED-826 J5 on enclosed inquiry slip ▲

Free HOOD GLOVE GUIDE
helps you choose the RIGHT glove for EACH job!

This handy Guide shows the comparative wear and chemical resistance properties of Hood Neoprene, Rubber and Plastic-Coated Gloves. Our complete, 12-page catalog describes and illustrates Hood Industrial Gloves — the choice for *every* job in *any* industry. *Write for your copy today!*

HOOD RUBBER CO.
a division of the B. F. Goodrich Company
Watertown, Mass.

▲ For more details circle NED-827 J5 on enclosed inquiry slip ▲

Increased Insulation
BETTER CONNECTIONS
JONES BARRIER TERMINAL STRIPS

Leakage path is increased — direct shorts from frayed terminal wires prevented by bakelite barriers placed between terminals. Binder screws and terminals brass, nickel plated. Insulation, BM 120 molded bakelite. Finest construction. Add much to equipment's effect.

Jones Means Proven Quality

Illustrated: Screw Terminals—Screw and Solder Terminals—Screw Terminal above Panel with Solder Terminal below. Every type of connection.

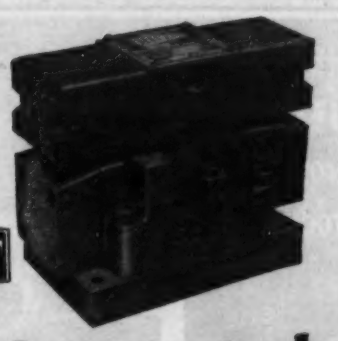
Six series meet every requirement: No. 140, 5-40 screws; No. 141, 6-32 screws; No. 142, 8-32 screws; No. 150, 10-32 screws; No. 151, 12-32 screws; No. 152, ¼-28 screws.

Catalog No. 20 lists complete line of Barrier Strips, and other Jones Electrical Connecting Devices. Send for your copy.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-828 J5 on enclosed inquiry slip ▲

RIVETT



gasket-mounted hydraulic valves

Features For Your Broader Control

1 Greater flow capacity.
2 Less pressure drop.
3 More compact in size.
4 Seven spool designs for 3 and 4-way control.
5 Dust sealed and moisture resistant. Roomy wiring box.
6 Continuous duty, shock mounted solenoids.
7 Shock resistant spool.

Series 6600 Solenoid Pilot Operated.
Series 6500 Direct Solenoid Operated.
3000 PSI — 6600 Series furnished in 1/2", 3/4", 1", 1-1/4" and 1-1/2" sizes. **6500 Series** furnished in 1/4" size.

Get new Catalog — shows why new Rivett gasket mounted solenoid pilot valves are best; illustrates flow operations for all piston designs. A must on every board!

RIVETT LATHE & GRINDER, Inc.
Dept. NED-9, Brighton 35, Boston, Mass.

Rivett Furnishes A Complete Power Package—Air and Hydraulic Valves, Cylinders, Power Units

▲ For more details circle NED-829 J5 on enclosed inquiry slip ▲

How To
Mark Name Plates In
1/5 the Time

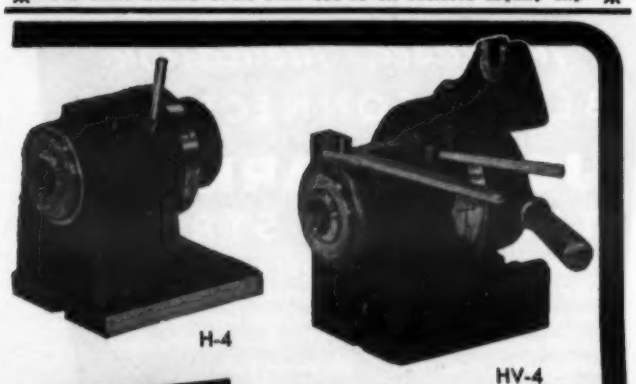
Cutting costs in these times is a good trick if you can do it. You can, on plates requiring detail marking, by using an Automark Electric Metal-Marking Typewriter. The operator lightly touches the key and the Automark does the rest, quickly and automatically. No dial to turn—no lever to pull. Marking output is increased five times and worker fatigue is greatly reduced. Write today for Bulletin 8-16.

AUTOMARK
Electric Metal-Marking
TYPEWRITER
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1928 South Vandeventer Ave. • St. Louis 10, Mo.

For more details circle NED-830 J5 on enclosed inquiry slip



HARDINGE
ELMIRA, N.Y.
INDEX FIXTURES

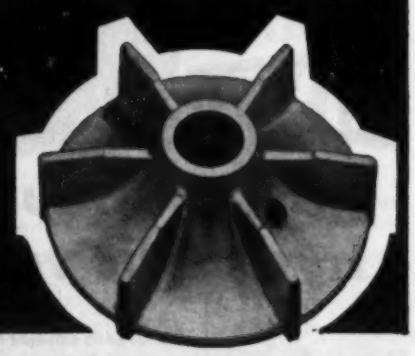
The way to increased production is to hold work accurately and provide for rapid indexing. HARDINGE Collet Index Fixtures—H-4 for Tool Room and Inspection Departments; HV-4 for Production Departments—will help increase production on either new or old machines. Planned interchangeability for a variety of applications. Buy these standard fixtures instead of making expensive special fixtures.

HARDINGE COLLETS
For All Lathes and Automatics
Backed by 60 Years of Manufacturing Experience

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

For more details circle NED-831 J5 on enclosed inquiry slip

another case where
MUELLER BRASS CO. FORGINGS
improve
a product . . .



diesel engine
water pump
impeller

forged of
"603" HIGH STRENGTH BRONZE

By replacing sand-castings with forgings of "603" high strength bronze, this manufacturer produced a superior pump impeller. Due to the better corrosion resistance, uniformity, and surface finish of the forgings, a more efficient and long-lived pump is now produced. Why not talk to Mueller Brass Co. engineers about the use of bronze forgings in your product, too?

STREAMLINE PRODUCTS
MUELLER BRASS CO.
PORT HURON 27, MICHIGAN 162-A

For more details circle NED-832 J5 on enclosed inquiry slip

New Literature & Catalogs

Stainless & Alloy Steel Publications

Allegheny Ludlum Steel Corp.—16-page pocket-size "Publication List" is fifth edition and lists 85 currently available technical data sheets and booklets on stainless, electrical, tool and die steels and on other high alloy specialties.

For more details circle NED-833 J5 on enclosed inquiry slip

Steel Buyer's Guide

Joseph T. Ryerson & Son, Inc.—Identified as a buyer's guide for bars, structurals, plates, sheets and strip, 4-page bulletin 11-2 gives standard specs to which these steels are made; type, range and accuracy of cutting to user's needs; and savings resulting from combining orders for these products.

For more details circle NED-834 J5 on enclosed inquiry slip

Industrial Cutting Tools

Hyde Mfg. Co.—One of the largest selections of hand and machine cutting knives and tools for rubber, plastic and other industries is featured in well illustrated product catalog. Pictures show many of these tools in use. Booklet also suggests ideas for many soft and hard goods cutting tools.

For more details circle NED-835 J5 on enclosed inquiry slip

Lubricated Plug Valves

Homestead Valve Mfg. Co.—28-page reference book 39-5 illustrates and specifies straightway, three-way, four-way and multiple port lubricated plug valves for 250-psi service with oil, water and gas, and 150-psi service with steam. A wide choice of metals and sizes in 100 per cent pipe area and venturi types is offered.

For more details circle NED-836 J5 on enclosed inquiry slip

Air Conditioning Units

American Blower Corp.—20-page bulletin 8127 describes new line of central-station, cabinet-type air conditioning units which provide air circulation, cooling and dehumidifying, heating and humidification, air cleaning and damper control. Capacities ranging from 600 to 48,000 cfm are detailed.

For more details circle NED-837 J5 on enclosed inquiry slip

Carton Opener

Flash Box Opener Co.—Information on all-purpose utility knives and the Flash Box Opener for cartons is found in illustrated bulletin. Data on wide number of uses for the tool are included.

For more details circle NED-838 J5 on enclosed inquiry slip

Throw-away Insert Tools

Viking Tool Co.—Dexamatic Chiptrol tooling for light and medium duty machining applications with triangular and square throw-away carbide inserts is subject of 6-page bulletin No. 55. Tools have negative and positive rake angles. Also described are adjustable chip breaker and replaceable carbide anvil.

For more details circle NED-839 J5 on enclosed inquiry slip

DRIV-LOK STUDS
Save 60% Fastening Time!
• HOLD PERMANENTLY
• DISASSEMBLED EASILY WITHOUT DAMAGE TO COMPONENTS

Quick, simple insertion . . . Drill Hole and Drive Stud with a single blow.

TYPICAL APPLICATIONS
Attaching name plates or instruction panels
Fastening spring assemblies or control arms.
Widely used for fastening brackets.
Securing semi-permanent covers and closure plates.

3 HEAD STYLES
Round (standard)
Flat (to order)
Countersunk (to order)

Driv-Lok Studs save time and reduce costs in fastening name plates, covers, brackets, panels, etc, to heavier sections and for countless other applications involving light-to-heavy member fastening. Once installed, Driv-Lok Studs will not vibrate loose or fall out—yet they can be easily removed without damage to components. Made in 3 head styles. Write for illustrated catalog sheet, prices and samples.

DRIV-LOK PIN COMPANY
717 Chauncey St. • Sycamore, Ill.

For more details circle NED-840 J5 on enclosed inquiry slip

NEVER BEFORE
A Hose Clamp So Easy to Attach and Detach!

NEW Aero-Seal
JET!

Now AERO-SEAL hose clamps have been improved with a new exclusive patented feature that permits *faster* installation and removal.

To attach, push housing to desired position on the band, snugly around hose, and threads of worm screw will drop in the slots. Now tighten worm screw to fasten securely. To remove, loosen worm screw; at the same time lift screwdriver head and clamp will open. But like all AERO-SEALS, it won't budge till you want it to.

Stick with the finest — at *no* extra cost! It's TURNOVER, not discount, that makes profits. Ask your jobber!

BREEZE
Aero-Seal QUICK ATTACH JET HOSE CLAMP
BREEZE CORPORATIONS, INC., 700 Liberty Avenue, Union, N. J.

For more details circle NED-841 J5 on enclosed inquiry slip

NEW BULLETIN FEATURES SK VALVES FOR POWER AND INDUSTRIAL USE

SEND FOR YOUR FREE COPY

Here's a bulletin you need for quick reference on SK Valves: *Bleeder Check, Boiler Feedwater, Venturi Reducing, Heater Bypass, Balanced Butterfly, Atmospheric Relief.* Includes description of SK's High Pressure Strainer.

New Bulletin V-1 includes information on: *SK designs and their specific advantages and the construction features of each valve. Other type valves made by SK are listed and SK's quality control and testing facilities are described.*

For your free copy, write today to:

SCHUTTE AND KOERTING CO.
2227 State Road, Cornwells Heights, Bucks County, Pa.

For more details circle NED-842 J5 on enclosed inquiry slip

NOW! BUILD YOUR OWN Pallet Racks, Rails and Shelving . . . with
Nu-Rail SLIP-ON FITTINGS
AN ENTIRELY NEW METHOD OF FITTING PIPE

NO WELDING!
USE ALL PARTS OVER AND OVER AGAIN!

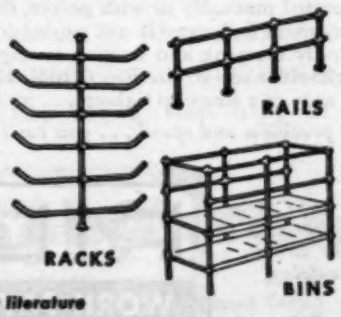
Build them when and where you need them

SAVE MONEY, too!

USE ANY I.P.S. PIPE OR TUBING . . .
NO PIPE CUTTING . . . NO WELDING

Just a few examples of Nu-Rail versatility! If it's made of pipe . . . you can make it BETTER, FASTER AND FOR LESS . . . with Nu-Rail!

Distributed coast to coast.



Write for literature
THE HOLLAENDER MFG. CO.
3840 Spring Grove Ave., CINCINNATI 23, OHIO

For more details circle NED-843 J5 on enclosed inquiry slip

NEW! NEW! NEW!

Up-to-date facts on new Tri-Forged welded and Tri-Lok interlocked grating and stair treads

Here's vital information for ready reference on the new Tri-Forged steel grating and stair treads, plus latest information on Tri-Lok interlocked products. This fact-filled catalog gives you installation specifications, types of grating and stair treads available, and safe load tables. Be sure to write for your copy today.

For your free copy
write department D-2509

DRAVO CORPORATION
Pittsburgh 22, Penna.
National Distributors

▲ For more details circle NED-844 J5 on enclosed inquiry slip ▲

Mix fluids in a few seconds

Costs less than hand stirring. Mix fluids rapidly, thoroughly—with a LIGHTNIN Portable Mixer. It clamps on any open tank or container—handles any fluids.

Do hundreds of mixing jobs at low cost. Mix paint, glaze, chemicals. Dissolve powders and crystals. Circulate solvent for cleaning parts. Agitate quench baths. Blend food products, flavors, syrups —with powerful double-action mixing that rotates and tumbles the batch thoroughly, uniformly.

Fully guaranteed to mix quickly, completely. Thousands in use everywhere. Many in service over 20 years.

Thirty models to choose from—sizes ⅛ to 3 HP. Electric and air driven units. Your choice of motors, materials. **Send today for Catalog B-108 and prices.**

TURBINE AND PADDLE MIXERS
Save power mixing big batches. You get exact mixing action you want, with least power input. Hundreds of standard power-speed combinations. For open or closed tanks; top or bottom entering. Sizes 1 to 500 HP. Send for Catalog B-102.

SIDE ENTERING MIXERS
For big, big tanks (up to 6 million gallons). Easily serviced without draining tank. Choice of stuffing boxes, or maintenance-free rotary mechanical seals. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT Co., Inc.
165-j Mt. Read Blvd., Rochester 11, N. Y.

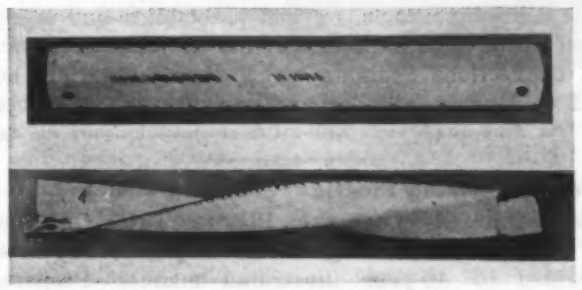
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

▲ For more details circle NED-845 J5 on enclosed inquiry slip ▲

New Processes & Materials

PORCELAIN ENAMELING process allows application directly to ferrous metals

Pre-Namel 410 is the key to a method which allows the application of a porcelain enamel finish coat directly to ferrous metals. Field tested by Frigidaire



and developed in collaboration with Pemco Corp., this process results in reduction of coating thickness with consequent minimizing of damage from torsion and cross-bending. It also permits the production of straight parts with minimum of bowing between front and back sides, few rejects and a reduction of the number and types of enamel frits required.

Illustration depicts results of torsion tests. Top shows that enameling iron with conventional two-coat system of porcelain enamel has fractured badly when twisted only 70 degrees. Enameling iron with one coat of porcelain enamel over coat of Pre-Namel 410, bottom illustration, can be twisted 255 degrees before enamel fractured. Easily and positively controlled, finish can be applied with automatic equipment. Developed by **Parker Rust Proof Co.**, 2187 E. Milwaukee Ave., Detroit 11, Mich.

▲ For more details circle NED-846 J5 on enclosed inquiry slip ▲

ROOF PATCHING MATERIALS applied directly to wet roofs

Formulated to adhere to wet roof surfaces, Shield-Cote and Shield-Tite can be used to repair leaking roofs even during rain and snow storms. It is thus possible to repair leaks when they are apparent. Two sizes of kits are available with all materials and tools needed to make permanent patches. They include drum of Wet Surface Shield-Cote, large can of Wet Surface Shield-Tite, one or two rolls of woven glass fiber membrane and one or two roof brushes. Distributed by **Ranco Industrial Products Corp.**, Dept. N, 13311 Union Ave., Cleveland 20, O.

▲ For more details circle NED-847 J5 on enclosed inquiry slip ▲

Get infinitely variable speeds with smooth, instant change

CLEVELAND Speed Variator gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times the input speed). Simple speed regulation gives instant, smooth change by manual, automatic or remote control. Available with constant torque or constant horsepower rating. No belts or complicated linkage. Ample bearing support to carry overhung pulleys. Simple construction, compact, quiet running. Ideal where dependable, variable speed drive is required. Write for Bulletin K-200.

NOW available in 9 sizes, ranging from one-half to 10 horsepower at 1750 input RPM.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, O.
Sales Representatives in all major industrial markets

▲ For more details circle NED-848 J5 on enclosed inquiry slip ▲

SAVE UP TO 85% ON GOVERNMENT SURPLUS

MAGNI-FOCUSER
Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.
SIZES: 20" focal lgth. 1½ power—14" focal lgth., 1¾ power, 10" focal lgth., 2½ power; 8" focal lgth., 2¾ power . . . . . price each ONLY 10.50

HYDRAULIC EQUIPMENT
We stock over 100,000 Hydraulic Cylinders in 106 different types and sizes. These can be adapted wherever tremendous power is needed to push, pull, hoist, mould or drive, etc.

SPECIAL
Gives 20,000 lb. thrust using 1000 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 2000 PSI. Can also be used on a low pressure oil system. Has 4" bore; 18" stroke; 30½" long. Ideal for shop. USED 29.95 Part No. 29 NEW $39.95

OTC TOOLS
See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.

NEW 10 TON HYDRAULIC PRESS
Use this Press in the Shop or take it with you on the job. Frame is 4" welded channel iron. Has 4½" stroke, 2¾" diam. ram. Valve operates piston in both directions. Adjustable platform. Positive power Hand Pump with handle. 2000 PSI pressure gauge. SIZE: 60" high 27" wide 29" base 129.00

HYDRAULIC HAND PUMP
Operating pressure 1500 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

ACCUMULATORS
A-28 FLOATING PISTON TYPE – 4"x 18" Built to stand 2,000 PSI 12.75
A-5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.50
NOTE: Stocks include bargains in Hydraulic Pumps – Valves – Motors – Boosters – as well as Oil, Water and Fuel Pumps, etc.

WORLD'S MOST AMAZING BARGAIN CATALOG
OVER 320 PAGES
Packed with SENSATIONAL VALUES in GOV'T SURPLUS – FACTORY CLOSE-OUTS – and GENERAL MERCHANDISE. Fully priced and Illustrated. Thousands of items in Machine and Industrial Tools – Hydraulic Equipment such as Cylinders, Pumps, Valves, Motors, Fittings, etc. Bargains in Electric Motors, Generators, Blowers, Parts, etc. Also Hand and Power tools, Precision Instruments, Bearings, Hose Clamps, Winches, Foam Rubber, Microscopes, etc. ALL AT PALLEY BARGAIN PRICES – PRICED TO SELL!

Palley SUPPLY CO. 2263 E. VERNON AVE., DEPT. NED-9 LOS ANGELES 58, CALIF.
Pay by M.O. or check. P.O.'s accepted from D&B firms. ½ deposit with C.O.D.'s. Prices FOB Los Angeles

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Next time try Chip Board

Gair Pasted Chip Board won't let you down. In fact, the only thing it lowers is your fabricating costs.

Gair Pasted Chip Board is strong and moisture resistant, yet light-weight and *easy to fabricate*. It's ideal for chair seats, bridge tables, TV and radio backs, toys — along with a host of other items . . . maybe yours?

Your Gair Boxboard man has lots of ideas on how Pasted Chip Board can fit into your product picture. What's more, he can supply it to the specifications that fit your fabricating needs.

GAIR boxboard
SPRINGBOARD TO MORE SALES

ROBERT GAIR COMPANY, INC. • 155 EAST 44th STREET • NEW YORK 17, N.Y.

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A simple, rapid change-over converts the Roller cutter into a 4-wheel cutter for ditch work or similar restricted-area cutting.

Whether in the Roller, 3-wheel or 4-wheel models these new Reed cutters are the easiest and cleanest cutting tools in their size range. In the Roller model, the cutting wheel is in the block where it is always in full sight for lining up with a cut-off mark on the pipe. The 4-wheel model is excellent for close quarters since it operates with an easy, ratchet-like action through one-fourth of a revolution. Pipe or conduit capacity up to 2 inches. Reed Razor Blade wheels cut easier, leave minimum burr.

Ask your supplier or write for free literature.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA • U. S. A.

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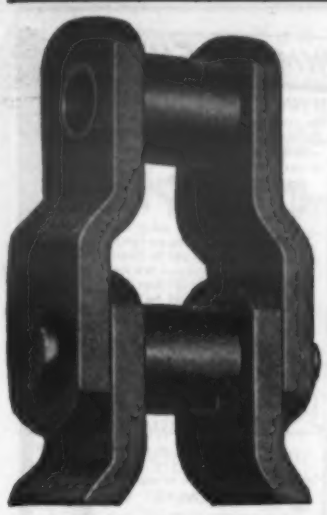

JEFFREY STR CHAIN

Better equipment results when Jeffrey top quality STR drive chain is used for flexible transmission of power.

Jeffrey STR has maximum strength . . minimum weight . . and added reserves for long periods of normal wear plus shock from unexpected overloads.

If you operate mixers, dredges, power shovels, ditchers, loaders or other unit machines, see us for information on Jeffrey STR. Replace worn out chains with Jeffrey equipment.

JEFFREY
MERCHANDISE SALES DIVISION
THE JEFFREY MANUFACTURING CO. COLUMBUS 16, OHIO

▲ For more details circle NED-852 J5 on enclosed inquiry slip ▲

BELT New building - block design builds profits for you with low - cost conveyor systems

SERIES S12A VERSA-VEYOR
Light, low-cost, for moderate loads. Ideal for over stairways. Aluminum frame 11', 13' and 15' lengths.

SERIES T VERSA-VEYOR
Versatile, easily modified for any sorting, assembly job. 12" or 18" wide belts; aluminum or enameled steel frames. Various lengths.

SERIES F VERSA-VEYOR
Adapts easily to floor-to-floor handling situations. 12" or 18" wide belts. Aluminum or enameled steel.

Never before such versatility in low-cost handling equipment! "Building-Block Design" means *standard, interchangeable parts* . . . Belt conveyors quickly adapt to special jobs and changing production needs. Extreme portability, rugged construction, tireless power. Many work-saving accessories available. Get the facts on cost-cutting multi-purpose Belt conveyors. Send coupon today for illustrated catalog.

BELT CORPORATION
2109 Stahl Road, Orient, Ohio
Send me complete Belt Conveyor catalog, showing models, capacities, accessories and applications.

NAME
ADDRESS
CITY

▲ For more details circle NED-853 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Sealing Compounds

Permatex Co., Industrial Div.—Reference guide and chart explains the multiple uses of special chemical sealants in a variety of industrial, manufacturing, agricultural, processing and maintenance operations. Presented are data on the proper sealants to use for such applications as refrigeration, plumbing and heating, exposed and underground pipelines and tanks, machine tools, oxygen assemblies and equipment requiring leakproof air, water, vapor or chemical connections Sealants which resist vibration, hot and cold acids, alkalies and coolants are described.

▲ For more details circle NED-854 J5 on enclosed inquiry slip ▲

Vacuum Forming Plastic

Monsanto Chemical Co., Plastics Div.—Guidance in the vacuum forming of thermoplastic sheets is provided by 40-page illustrated manual. Prepared jointly with the industrial design laboratory of Pratt Institute, this book lists advantages of vacuum forming and describes process equipment, mold design, mold preparation, production techniques and methods of decorating and post-forming.

▲ For more details circle NED-855 J5 on enclosed inquiry slip ▲

Scrubber Type Dust Collector

National Dust Collector Corp.—12-page illustrated bulletin 55 deals with the Hydro-Filter triple-action dust collector which removes 98.8 per cent of the coarse dust and 89.6 per cent fine dust by actual test. This "air scrubber" causes dust-laden air to be brought into contact with water, and dust particles transfer to the liquid stream. Sizes are available for every industrial need.

▲ For more details circle NED-856 J5 on enclosed inquiry slip ▲

Flexible Metal Hose & Expansion Joints

Flexonics Corp.—Flexon flexible metal hose and expansion joints are subjects of 8-page illustrated bulletin 149. Types and sizes are described for wide range of fluid handling applications.

▲ For more details circle NED-857 J5 on enclosed inquiry slip ▲

Cut-Off Machines & Bar Feeders

Modern Machine Tool Co.—Modern automatic cut-off machines and bar feeders for tubing, pipe and various sizes of bar stock, as well as spinning machines that seal off the ends of tubes are described in detail in 12-page illustrated manual. Capacities range up to 8-in. OD stock.

▲ For more details circle NED-858 J5 on enclosed inquiry slip ▲

Spring Design Data

Hunter Spring Co.—Basic considerations in designing precision springs are discussed in 8-page engineering study. Line drawings, graphs and formulas amplify the text. Compression, extension and torsion springs are covered.

▲ For more details circle NED-859 J5 on enclosed inquiry slip ▲

It's Light
WEIGHS ONLY 11 OUNCES

BROAD VISION DUST AND SPRAY HOOD

BUREAU OF MINES APPROVED RESPIRATOR

Real comfort for the many maintenance and production jobs calling for protection against dust & spray . . . COOLER, LIGHTER, MORE EFFICIENT. Unobstructed vision in all directions. No interference with work to be performed.

WRITE FOR BULLETIN NO. 42

Patent No. 2537265

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-860 J5 on enclosed inquiry slip ▲

Irvington TRANSFLEX* for Protection *plus* Transparency

Use Transflex, Irvington's transparent plastic tubing, when you need physical and chemical protection, flexibility, and easy visual inspection. Tensile strength is 3000 psi; dielectric strength, 1000 vpm. Resists abrasion . . . oils, acids, alkalies, common hydrocarbon solvents. Recommended for continuous operation at temperatures from —58° F to 176° F.

Electrical equipment manufacturers choose Transflex as a tough, dust-proof covering for resistors and capacitors, for terminal and lug insulation, as flexible conduit in lighting and ignition systems. The aircraft industry likes its flexibility at low temperatures. Processors use Transflex for low pressure hose, as flexible shaft covering, or for piping corrosive liquids. Transflex is available in sizes from .022" to 2.000" I.D. Write for technical literature and samples.

*T.M. Reg. U.S. Pat. Off.

PLASTICS PRODUCTS
IRVINGTON DIVISION
MINNESOTA MINING & MANUFACTURING COMPANY
14 Argyle Terrace • Irvington 11, New Jersey
1905-1955 Golden Anniversary Year

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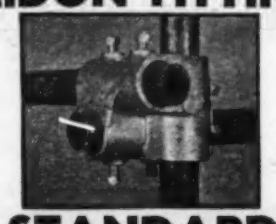
MAKE YOUR OWN
ADJUSTABLE SCAFFOLDS and MATERIAL RACKS

WITH
AMIDON FITTINGS



AND STANDARD PIPE
THE MOST ECONOMICAL
AMIDON ENGINEERING CO.
ELYRIA 20, OHIO

▲ For more details circle NED-862 J5 on enclosed inquiry slip ▲

Industrial HEAVY DUTY JIB CRANES
Precision engineered and built for smooth efficient operation

360° Rotation

Industrial PBM self-supported Jib Cranes are of all welded steel construction, rotate 360 degrees and have capacities up to 12,000 lbs. The rotating steel head revolves on 4 rollers and 9 precision ball bearings resulting in extremely smooth operation — unsurpassed by any other crane of its type. The high standard of workmanship and material, coupled with reliable performance make Industrial Jib Cranes your best buy.

Industrial manufactures 6 other types of Jibs and many models of Overhead Traveling Cranes to cover every need. Consult with Industrial for cranes to solve your material handling problems.

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INDUSTRIAL CRANE & HOIST CORPORATION
1527 SOUTH PAULINA STREET CHICAGO 8, ILLINOIS
Overhead Cranes • Jib Cranes • Monorail Systems
Crane Runways
Representatives in Principal Cities

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TORIT DUST COLLECTORS

...Really draw!

A size and model to solve any dust collecting problem. Torit collectors provide complete, all-around dust control. Torit collectors are unitized for custom installation on each machine, giving power and suction only when machine is operating. Keeps plant and machines free from clogging and unsightly dust. Furthermore, cleaned and filtered air is exhausted back *into* the room maintaining heat balance. Find out now how Torit unitized dust control is engineered to your problems.

See our catalog in Sweet's Machine Tool File, or write:

TORIT

MANUFACTURING CO.
298 Walnut St., St. Paul 2, Minn.

▲ For more details circle NED-864 J5 on enclosed inquiry slip ▲

If you cut materials—

This ENGINEERED CUTTING GUIDE

...belongs on your desk!

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1.	CUTTING ENGINEERING
2.	CUTTING OR SHEARING MACHINES
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4.	BENCH SHEAR
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Most compact and complete Cutting Equipment Guide available anywhere!

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PRODUCERS OF MODERN MACHINERY FOR THE PAPER, PLASTICS, RUBBER, LEATHER, WIRE AND TEXTILE INDUSTRIES

▲ For more details circle NED-865 J5 on enclosed inquiry slip ▲

New Processes & Materials

CLEATED CONVEYOR BELT
cleats and belt body are one piece

Fabric-reinforced cleats and body of this cleated conveyor belt are one piece, without joints, cracks or gaps. Belts are designed for incline or decline conveying and are especially suitable for sanitary service. The smooth curves of cleats make cleaning simple and easy. Cleats can be made in any height, width and spacing, and as stiff or flexible as desired. They will flex around pulley diameters compatible with weight of belt. Belts are offered in rubber, neoprene or special compounds for resisting grease, oil, juices, chemicals, etc. Colors are white, tan or black. Made by **A. J. Sparks & Co.**, 859 Grandville Ave. S. W., Grand Rapids 2, Mich.

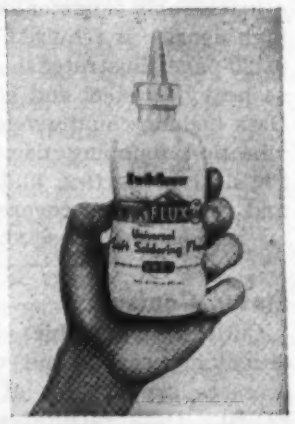
▲ For more details circle NED-866 J5 on enclosed inquiry slip ▲

HIGH SPEED PAINT STRIPPER
nontoxic liquid used on plastics

Paint and other organic finishes can be removed quickly from plastics by Liquid Stripper No. 11. Finishes are removed in one run-through without reaction with most plastics. Chemical does not create any fire hazard, has neither odor nor fumes and is nontoxic. It converts paint film into a soluble form that is easily rinsed off. Stripper contains only chemical that can be flushed through usual waste disposal lines. Formulated by **Northwest Chemical Co.**, 9310 Roselawn Ave., Detroit 4, Mich.

▲ For more details circle NED-867 J5 on enclosed inquiry slip ▲

SOLDERING FLUX
in plastic squeeze dispenser



Kwikflux S-64 universal soft soldering flux is now available in Kwikfluxer applicator-container made of pliable plastic. For use, screw cap tip is pierced and flux is squeezed onto work. Applicator holds 8 fluid oz of flux and is refillable. Flux has excellent flow on stainless and regular steel as well as on other ferrous, nonferrous and precious metal alloys. It can be used with direct, indirect or induction heating applications. Made by **Special Chemicals Corp.**, Dept. NE, 100 S. Water St., Ossining, N. Y.

▲ For more details circle NED-868 J5 on enclosed inquiry slip ▲

Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

NEW!
MEDIUM DUTY INDUSTRIAL CASTER
Cuts Handling Time —Saves Man-Hours

900 Series Double Ball Bearing Swivel Plate Caster with Vulcanized Rubber Tread Wheel

The 900 Series, all purpose, Truck Caster has heavy pressed steel horn and top plate, corrugated for extra strength. Swivels easily on *two* full rows of hardened balls rolling around *two* separate raceways. Choice of six kinds or wheels to suit load (*175 lb. to 550 lb.*) and floor surface conditions.

All the engineering "know-how" from *over half a century of specialized experience* is yours in Faultless Industrial Casters—to speed production lines, trucks, portable equipment . . . with *less time, noise, effort.* Ask for Cat. 157, no obligation.

FAULTLESS CASTER CORPORATION
Dept NE-11, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

▲ For more details circle NED-869 J5 on enclosed inquiry slip ▲

THE NEW NEWCO®
SAFETY HOOK
ELIMINATES HUMAN ERROR . . . IT'S FOOLPROOF!

A load *cannot* be lifted without the gate or yoke automatically locking. To open, the hook must be manually pressed against a compression spring. Smooth design provides full throat opening and prevents hook from catching on projections. Yoke made of manganese alloy (110,000 P.S.I.), prevents hook from spreading if overloaded. Available in 5 sizes from rated load 1600 lbs. to 7500 lbs.

Perfect Companion to Cut Sling Costs THE NEWCO SLIP-ON THIMBLE®

Flattening or pulling together of the eyes under heavy loads is eliminated, as is severe wear at the top of the eye. Prevents abrasion when used with the Newco Safety Hook; or when a choker sling is used by slipping one eye through another. Easily slipped on. Available in sizes ⅜" to 1".

Additional Wire Rope Fittings Available: Combination Wire Rope Clamp and Thimble, Sling Saddle and Protector, and Sling Bridle. Write today for more information. Address: Dept. 105.

Newman Manufacturing & Sales Co.
Box 5939 Kansas City 11, Mo.

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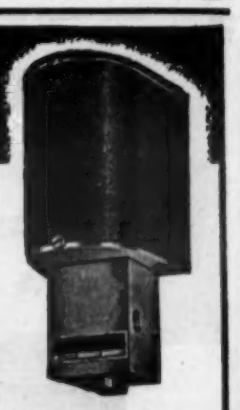
Solenoid VALVES



PILOT VALVES
3-WAY 4-WAY
For operating Master Valves and Small Cylinders

Speed Control VALVE
Controls speed of Air and Hydraulic Cylinders

3-Way and 4-Way VALVES
Pilot Operated
Sizes ¼"—⅜" ½" and ¾"
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37425 GRAND RIVER AVE., FARMINGTON, MICH.

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YOU CAN GET 42 STOCK SIZES 3/16" to 3"

HALLOWELL
SOLID STEEL COLLARS
from your industrial distributor

All of these precision-machined solid steel collars are size-marked for quick identification, and fitted with the famous self-locking UNBRAKO Socket Set Screw for positive positioning on the shaft. Write for Bulletin 868. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

HALLOWELL POWER TRANSMISSION DIVISION SPS JENKINTOWN PENNSYLVANIA

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for SUPERIOR DESIGN

use... Hydro-Line CYLINDERS

SERIES "J" CYLINDERS

For rugged, trouble free SERVICE

- *CARTRIDGE . . . rod-wiper, packing, bushing in one unit.*
- *RUGGED BODY . . . all steel end caps and barrel.*
- *PISTON RINGS . . . step-cut joint, sealing in both directions, long life, minimum leakage.*
- *PRESSURE . . . 2,000 psi heavy-duty . . . 3,000 psi non-shock.*
- *SIMPLICITY . . . no tie-rods . . . no retainer rings.*

Write for Bulletin No. 53

Hydro-Line *Manufacturing Co.*

5601 PIKE ROAD • ROCKFORD, ILLINOIS

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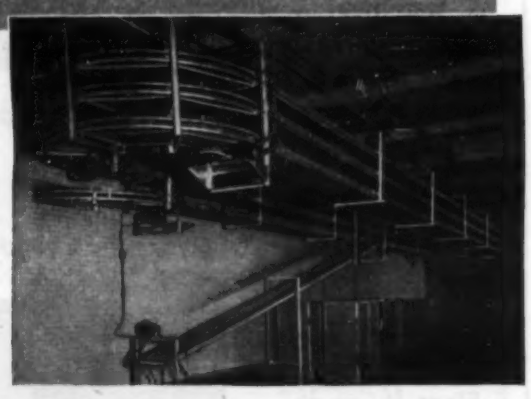
WENDWAY

the conveyor that pays for itself!



Wendway is perfectly suited to the cooling of raw products, packages or containers. This spiral system travels at ceiling height to conserve floor space.

This small, single tier Wendway conveyor is used to convey small packages from bag loaders through a series of stapling machines.

A typical package conveyor installation, this three-tier Wendway system extends throughout the plant and carries a steady flow of products to waiting trucks.

• You'll be amazed at how quickly a Wendway conveyor system will pay for itself in your plant. A Wendway system will eliminate multiple handling of products, save man hours and floor space—all while conveying your products swiftly, silently, safely and economically to any desired location.

Wendway is Industry's most versatile conveyor. Its steel wire belting is ideal for any light product, carton, food, etc., up to twenty pounds per unit. It does not sag or accumulate dirt like ordinary belting and can be kept highly sanitary.

Will it work efficiently in you plant? Certainly! Prove it to yourself by returning the coupon below for additional information about Wendway—today!

Gentlemen: Please send me additional information about Wendway for conveying_____
Name_____
Company_____
Address_____
City_____ Zone____ State_____
Please have a USP Conveyor engineer contact me at once ☐

USP

UNION STEEL PRODUCTS COMPANY
ALBION, MICHIGAN

▲ For more details circle NED-878 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Refrigeration Parts & Supplies

Harry Alter Co.—Dependabook No. 163 for Fall and Winter 1955-56 contains data on over 10,000 items, including refrigeration parts and supplies, electric motors and air conditioning components. All are illustrated, described and priced.

▲ For more details circle NED-879 J5 on enclosed inquiry slip ▲

Plastic Hose, Sheet & Molded Products

Resistoflex Corp.—Compar, a modified polyvinyl alcohol resin plastic processed into a strong, flexible elastomeric material, is used in making plastic hose, hose assemblies, sheets and molded products. These are described and illustrated in 4-page bulletin COM-1. Material is unaffected by all water insoluble liquids and has good resistance to wear and abrasion. Properties are given.

▲ For more details circle NED-880 J5 on enclosed inquiry slip ▲

Portable Two-Way Radio Phone

Industrial Radio Corp.—Pak-Fone, a hand-carried portable two-way radio telephone is described in illustrated 4-page bulletin. Use can be as a packset, emergency mobile unit, emergency station or as a standby unit. Features include battery life indicator, loud speaker operation and operation without special training. Specifications for series of models are given.

▲ For more details circle NED-881 J5 on enclosed inquiry slip ▲

Power Presses

Famco Machine Co.—Fifty models in the Famco power press line, ranging in size from 4 to 18 tons in bench and floor types, are described in illustrated 12-page catalog. Four clutch types are detailed. Specifications, accessories and data on how to figure press tonnage requirements are included.

▲ For more details circle NED-882 J5 on enclosed inquiry slip ▲

Tungsten-Copper-Nickel Alloy

Fansteel Metallurgical Corp.—Fansteel 77 Metal, a machinable tungsten-copper-nickel alloy used where high density is required in a small space, is described in 20-page illustrated booklet F-1054. Alloy is twice as heavy as steel and 50 per cent heavier than lead. Uses include counterweights, rotors, balance weights, vibration damping devices and radiation shielding. Physical properties, and processes of manufacturing and finishing are covered.

▲ For more details circle NED-883 J5 on enclosed inquiry slip ▲

Motor Control

Cutler-Hammer Inc.—Motor controls for air conditioning, heating and ventilating, pumps and compressors are subject of 40-page illustrated catalog EC-80. Data facilitates selection of controls. Included are application data, operation information, features and selection table for each type of equipment. Typical wiring diagrams are given.

▲ For more details circle NED-884 J5 on enclosed inquiry slip ▲

JOHNSON MODEL B
LOW COST
METAL BAND SAW
PAYS FOR ITSELF MANY TIMES OVER

Whether in large shops or small . . . for production or occasional cutting on jobs where a smaller capacity range is sufficient, this handy, efficient Model B offers the traditional Johnson SPEED, VERSATILITY and ACCURACY at an investment that is surprisingly small. Available in Dry or Wet Cutting Models.

New WET CUTTING 5" x 10" MODEL B

SEND FOR CATALOG AND NAME OF LOCAL DEALER

JOHNSON MANUFACTURING CORP.

BARNES & TAYLOR STS. • ALBION, MICHIGAN

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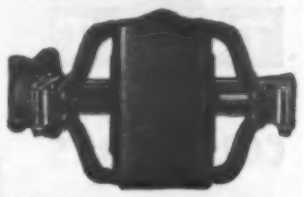
Stop Slamming Doors!

KANT-SLAM HYDRAULIC **Door Check**



Closes Large or Small Doors, Screen Doors and Gates Easily, Gently, Smoothly

Stops Slamming . . . Banging . . . Broken Door Glass . . . Insects . . . Drafts . . . Heat Loss

$9.95 ATTRACTIVE, DARK BRONZE, METALLIC LACQUER FINISH—HAMMERED BRONZE EFFECT

KANT-SLAM closes doors with efficiency of human hand. Hydraulic action—NOT an air check—piston works in oil. 3 years trouble-free service guaranteed. Price about half of other hydraulic controls.

Works any place along hinge side of door—top, middle or bottom—either right or left hand doors. KANT-SLAM is completely self-contained—door and hinges are absolutely free of any strain or pressure. Holds door open when past 90 degrees.

Only one size Check required—three sizes easily detachable springs available for various size doors. Simple screw adjustment for closing speed.

Order on 30 days FREE TRIAL at $9.95 *delivered—or Write for Complete Details.*

Used By Hundreds of Nationally-Known Firms

Oak Ridge Atomic Energy Plant, University of North Carolina, Great A. & P. Tea Co., Bethlehem Steel Co., General Electric Co., Rutgers University, Northrop Aircraft, Fuller Brush Co., Carnation Co., Shell Oil Co., Kraft Foods.

KANT-SLAM DOOR CHECK CO.

375 W. Spring St., Bloomfield, Indiana

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Speed Control...

Our optional "Speed Control" feature is an addition to our complete line of pilot operated control valves

SELF CLEANING
No small orfice to clog

SINGLE UNIT
No additional piping required

SIMPLE TO ADJUST
From minute to maximum pipe area

Valvair

951 BEARDSLEY AVE., AKRON 11, OHIO
Affiliate: The Sinclair-Collins Valve Co.

BOOTH 835
PRODUCTION ENGINEERING SHOW
CHICAGO, ILL.

951 BEARDSLEY AVE., AKRON 11, OHIO

Affiliate: The Sinclair-Collins Valve Co.

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Shown is Uplifter loading highway truck.

Revolvator Uplifters: 1000 lb. and 2000 lb. capacity. Also dual capacity hand-operated models.

YOU BENEFIT...

by Over 50 Years of experience.

Revolvator Uplifter Portable Elevators. Multiple use, multiple purpose Revolvator Uplifters, products of 50 years of engineering know-how, solve handling problems throughout all industry. Ideal for shop usage, Revolvator Uplifters also speed handling in the shipping department with equal efficiency. The Uplifter is ideal when no shipping dock is available. Electrically-powered Uplifter portable elevators are available in either "plug-in" or battery operated models. Today write for full information.

REVOLVATOR CO.
8732 Tonnele Ave., North Bergen, New Jersey

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Quick Switches

are a

DAVEN

Specialty

And the "specialty of the house" is double-barreled . . . first, choose from hundreds of standard units to satisfy your needs—for quick switch delivery . . . second, Daven can effect quick 'switches' or changes from standard units to special switches, by using components at hand. That, too, makes for speed, dependability, economy. Write for more detailed data.

THE **DAVEN** CO. *199 Central Ave. Newark 4, N. J.*

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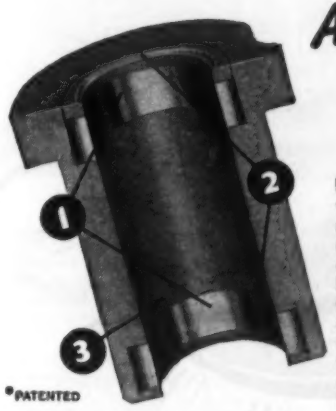
MORE HOLES— MORE ACCURACY— FASTER— AT LESS COST



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Carbide Inserted Bushings Are Doing It Daily!

HOW? Like this: (1) Last longer . . . with a life—in most cases—as long as solid carbide bushings at prices that come close to the prices of ordinary steel bushings; (2) Increased life for your drill jigs and fixtures; (3) Increased life for your drills and reamers; (4) Accuracy maintained for a LONG PERIOD of time; (5) Less non-productive machine time, less lost man-hours, because bushings need not be changed as often; (6) Inspection time saved, because of greater accuracy for a longer time; and (7) Less waste due to spoilage, for the same reason. Don't pass up a good bet! Get the dope on MEYCO Carbide Inserted Drill Jig Bushings today!

*PATENTED

1. Tungsten carbide rings at the points of wear; 2. Steel rings protect drills and carbide; 3. Special hardened alloy steel body.

For information and prices write for Meyco Bushing Catalog No. 49

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▲ For more details circle NED-890 J5 on enclosed inquiry slip ▲

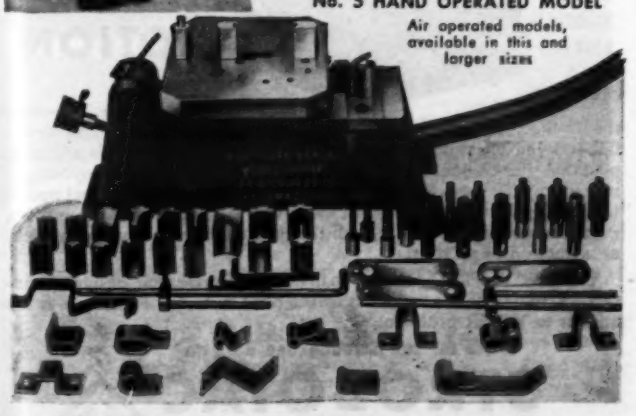
THE FAMOUS **MULTIFORM BENDER CUTTER**

Produces Without Special Tooling—Saves Die Costs Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to ⅛" x 1½".

No. 5 HAND OPERATED MODEL

Air operated models, available in this and larger sizes



See this equipment on display, Booth 474 Navy Pier, Production Engineering Show Sept. 6-16.

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS

IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

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New Processes & Materials

NONCORROSIVE LINING applicable to pots, vessels, tanks

Metal containers for corrosive chemicals can be lined with Fluorolin 202, a material that combines the chemical inertness of Kel-F with mechanical rigidity of aluminum foil spread-coated with pressure - sensitive adhesive. Linings can be cut out, assembled on the job and pressed into place like wallpaper on pots, buckets, vessels and tanks. Joints can be butted and sealed with strips of the same material. Straightedge and shears are only tools required. Made by **Joclin Mfg. Co.**, 15 Philip Pl., North Haven, Conn.

▲ For more details circle NED-892 J5 on enclosed inquiry slip ▲

STRONG ALUMINUM TUBING has high resistance to corrosion

No. 6066 high-strength alloy aluminum specialty tubing is made in square, rectangular, round and special configurations in range of sizes. It is especially suited for use in water heaters, gas engines, refrigerators, unit heaters, air lines, pumps and water lines. It is also adaptable for such structural applications as scaffolds, rails, booms, mullions and transmission towers. Features include resistance to general corrosive conditions, weldability and good surface finish. Made by **Harvey Machine Co.**, Harvey Aluminum Div., Dept. of Metallurgy, 19200 S. Western Ave., Torrance, Calif.

▲ For more details circle NED-893 J5 on enclosed inquiry slip ▲

DUST-COLLECTING MOP TREATMENT lasts a week on dust cloth or mop

Dust and grit are removed from all surfaces when cleaned with mop or dust cloth treated with Dustnox. No residue is left. This hydrosolar liquid dressing is oil-free and nonflammable. Any mop or cloth treated with this dust - attracting compound can be used for about a week. It can then be laundered and given a fresh treatment. Made by **U. S. Sanitary Specialties Corp.**, Dept. DX, 1003 S. California Ave., Chicago 12, Ill.

▲ For more details circle NED-894 J5 on enclosed inquiry slip ▲

NEW CATALOG

shows how to improve PUMPING PERFORMANCE

You'll find our packingless vertical pumps are particularly well adapted for immersion or sidewall installation. These pumps without seals or packing result in more practical, economical operation, are trouble-free and require less maintenance. Get our latest catalog form 7074-D for sound help on design improvement. (¼-7½ hp)

Other sizes (¼-75 hp) also available.

YOU SHOULD HAVE an Ingersoll-Rand circulating pump catalog if you are interested in, or responsible for, the development of pumping applications that require higher liquid levels.

Ingersoll-Rand

9-236 11 Broadway, New York 4, N. Y.

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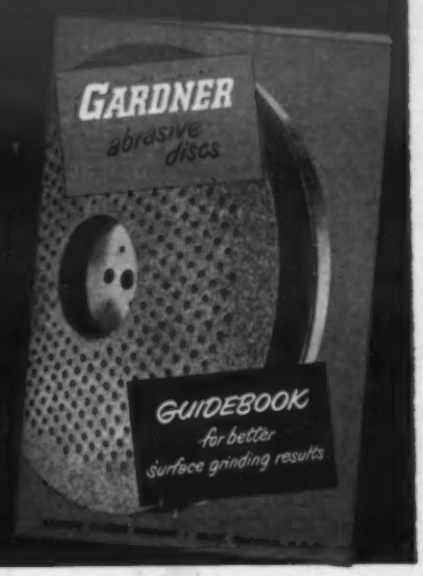
Get these facts on how to select and use abrasive discs for better grinding and lower cost



54 pages of practical...up-to-date helpful data!

GARDNER MACHINE COMPANY
460 Gardner St., Beloit, Wisconsin

119A

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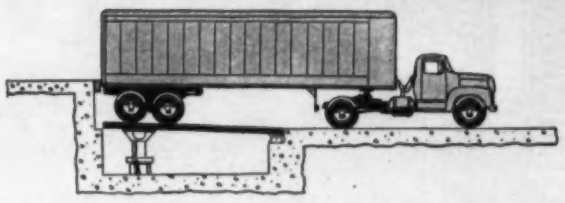
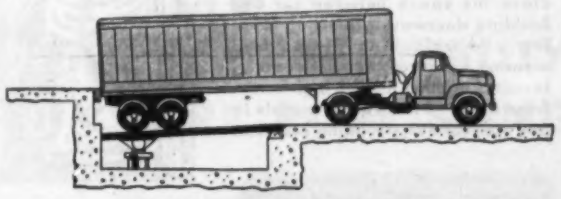
Save loading costs and dock space



ROTARY TRUCK LEVELER

raises or lowers trailer to dock level



FASTEST LOADING AND UNLOADING

- 40,000-lb. capacity, 24" travel . . . handles any highway carrier at any loading dock.
- Inexpensive to install in new or old buildings. Takes up no space.
- Reduces to a minimum the incline angle between bed and platform. Factory trucks move in and out with speed and safety.
- Raised center curb section guides wheels onto runways for fast, accurate truck positioning.
- Dependable, economical hydraulic operation by Rotary Oildraulic® electric power unit.

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Please send data on the new Rotary Truck Leveler.

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Rotary **TRUCK LEVELER**

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CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.

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Completely illustrated with specifications for each model. Mobile Floor cranes also available. Capacities ½ to 3 tons. Write now for your copy.

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New Literature & Catalogs

Infrared Applications

Fostoria Pressed Steel Corp.—Where can infrared be used? What are the advantages of heating by radiation? How much does it cost? Answers to these and hundreds of other questions regarding industrial applications of infrared are provided in 20-page illustrated reference book entitled, "Applications Unlimited." Section deals with case histories citing savings obtained in heating, baking, drying, degreasing and other uses of infrared in manufacturing processes.

▲ For more details circle NED-901 J5 on enclosed inquiry slip ▲

Weights of Screw Machine Products

Scovill Mfg. Co., Mill Products Div.—An easy-to-use table is available for estimating the weight of High-Speed free-cutting brass rod required for screw machine products fabrication. Columns of table give "lb per 1000 pieces per in." for round, square and hexagon rod in all commonly used diameters from 1/16 to 3½ in. Also given are weight conversion factors for 28 other copper-base alloys.

▲ For more details circle NED-902 J5 on enclosed inquiry slip ▲

High-Pressure Equipment

High Pressure Equipment Co.—The rapidly expanding line of high pressure valves, adaptors, reactors, autoclaves, thermo-couplings, gages, fittings and tubing manufactured by this company is described in 28-page illustrated catalog 2055. Specifications and dimensions are given for each item.

▲ For more details circle NED-903 J5 on enclosed inquiry slip ▲

Precision Honing

Sunnen Products Co.—Precision honing machines and their application are covered in 8-page illustrated bulletin X-MAN-5000F. It explains how honing compares with other metalworking methods, and tells how honing can be used profitably to size holes to any tolerance and surface finish.

▲ For more details circle NED-904 J5 on enclosed inquiry slip ▲

Bearing Guidance

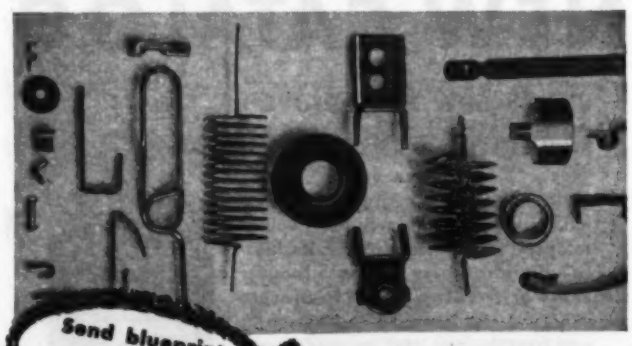
Dodge Mfg. Corp.—52-page manual A-638 is entitled "Rolling Bearings." This guide to the engineering, selection and application of bearings deals with Dodge-Timken roller, SC ball and the new SCM medium duty ball bearings. Both pillow blocks and flange cartridge mounts are considered.

▲ For more details circle NED-905 J5 on enclosed inquiry slip ▲

Adhesive Bonding

Rubber & Asbestos Corp.—Such typical adhesive applications as aircraft aluminum honeycomb construction, fin tubing heat exchanger assemblies and latest types of printed circuits are discussed in 8-page illustrated bulletin entitled, "Adhesive Bonding." How to specify adhesives for specific uses, processing techniques and available types of adhesives are covered.

▲ For more details circle NED-906 J5 on enclosed inquiry slip ▲



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Slice through 1½" cold-rolled steel in 41 seconds—through 3½" lead-sheathed copper cable in 90 seconds! This new *Portable* Band Saw is *fast—two and a half times faster* than bulky power hack saws!

It's light, compact—handles easily, goes anywhere there's a job to be done. *Continuous cutting action* delivers smooth, controlled sawing in any position, even in cramped quarters—on ferrous and non-ferrous metals, "problem" materials.

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Porter-Cable
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KEEP PIPELINES CLEAN AS A NEW PENNY

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KEEP PIPELINE DIRT AND SCALE from damaging pumps, air tools, reducing valves, temperature regulators, steam traps
FREE Valuable tips on protecting pipeline equipment. Write for Bulletin 252

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H5 FACE SHIELD

Unique Features Simplify Window Interchange

Has a full crown or spark deflector, new quick-fastening studs in front, and end clips which hold window securely. Chemical splashes cannot enter between window and headgear. Excellent impact protection. Available with acetate windows (clear or green), 24-mesh screen, and fibre. All windows optically correct and extra large (18¼" x 10"). Your nearest AO Safety Products Representative can supply you.

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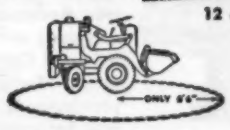
Speeds your bulk handling

The Jaeger Auto-Scoop can make fast work of your bulk handling as it is doing here at Mansfield Brass & Aluminum Co., Mansfield, Ohio, where it unloads box cars, stockpiles, delivers molding sand to preparators, moves core sand, etc. That's because it's specially designed to work easily in narrow aisles, box cars and other tight places, turn short, carry faster and lower, dump higher and farther. Many other time-saving features. Write for Catalog L12-4.

JAEGER LOAD-PLUS *auto-scoop*

12 cu. ft.

Low bucket tilt-back assists full-bucket loading, permits carrying as low as 4½" from ground.



5" shorter turning radius (6'6"). Faster speeds to 13.88 mph in reverse, 7.66 forward.

Higher clearance (6'8"), more reach (2'7").

1 cu. yd. Load-Plus available for bigger work.

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RUST VETO
quick and handy!

- Press button top for one-hand use
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Ready to give you on-the-job service...

▲ For more details circle NED-913 J5 on enclosed inquiry slip ▲

New Processes & Materials

GLASS FIBER PANELS
corrugated type transmit light

Translucent, glass fiber corrugated panels that transmit light without shadows or glare are now available for use in skylights, windows, awnings, light fixtures, partitions and similar applications. Panels can be nailed, bolted, screw-fastened or mastic bonded and require no special framing. They can be cut with shears or hand saw and are easily cleaned with water. Panels withstand all weather conditions, salt water and mild acids, and are shatterproof and rotproof. They will not crack, warp, or mildew. Fire-resistance and impact and load strength are high. Standard sheets have either 2⅝ or 4.2-in. corrugations and are offered in 8, 10 and 12-ft lengths and widths of 26, 27½, 34 and 40 in. Made by **Reflin Co.**, Dept. A, 5730 Kearny Villa Rd., San Diego, Calif.

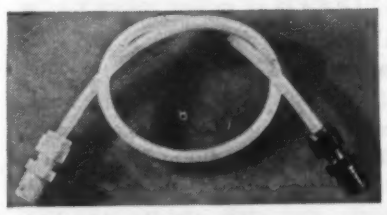
▲ For more details circle NED-914 J5 on enclosed inquiry slip ▲

DEBURRING COMPOUND
also descales and derusts

Mildly acidic FM-184 compound for barrel deburring, descaling and derusting, improves the color of steel after alkaline deburring. It also removes heat scale from steel and brightens brass with or without use of an abrasive media. Compound has good foaming properties at recommended concentration of 1 to 3 oz per gallon of water. It also can be added dry to the burnishing barrel. Made by **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

▲ For more details circle NED-915 J5 on enclosed inquiry slip ▲

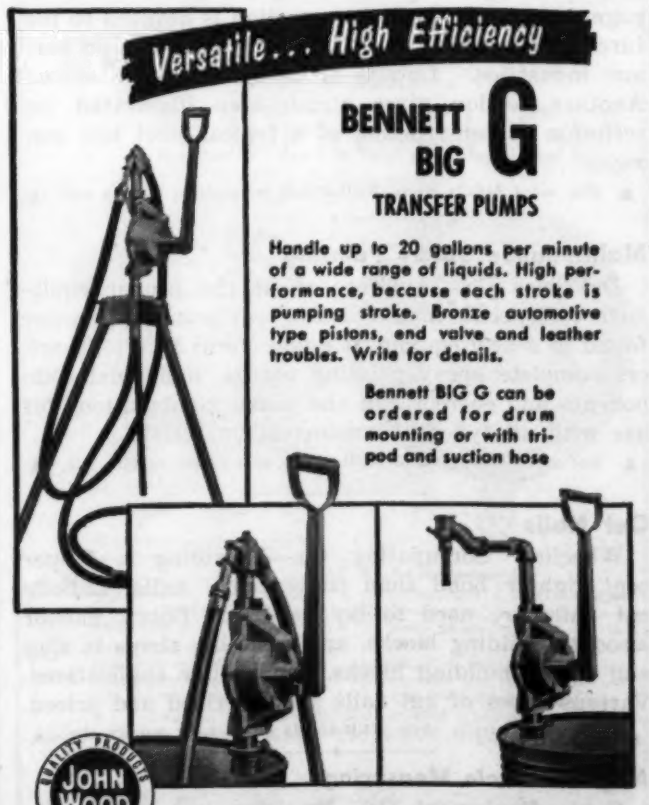
PLASTIC TUBE FITTINGS
easily installed to form tight joint



Made of Du Pont Zytel polyamide resin for use with plastic tubing where corrosion is a problem, line of Swagelok tube fittings includes elbows, tees, reducers, adapters, plugs, caps and bulkheads. No preparation of the tubing is necessary, and it is merely inserted on the fitting and the nut tightened. Strong, torque-free, leakproof seal is formed. Made by **Crawford Fitting Co.**, 886 E. 140th St., Cleveland 10, O.

▲ For more details circle NED-916 J5 on enclosed inquiry slip ▲

Versatile... High Efficiency



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Handle up to 20 gallons per minute of a wide range of liquids. High performance, because each stroke is pumping stroke. Bronze automotive type pistons, end valve and leather troubles. Write for details.

Bennett BIG G can be ordered for drum mounting or with tripod and suction hose

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BENNETT PUMP DIVISION • Muskegon, Michigan
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Weller Soldering Guns heat, cool *quickly*—therefore ideal for *intermittent* soldering. Choose from 4 models with heat range from 100 to 275 watts, including dual heat types. Also . . .

- **Dual spotlights focus on your work**
- **Streamlined design reaches hard-to-get-at places**
- **Triggermatic heat control is instantly on or off.**

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Weller SOLDERING GUNS
809 Packer Street • Easton, Pa.

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Wickwire! THE QUALITY WIRE ROPE SLING

A sling is only as good as the wire rope from which it is made. Wickwire Wire Rope Slings are made from Wickwire Rope, the product of a company whose history goes back well over a century. This long experience in the design and manufacture of quality wire rope is applied to the fabrication of Wickwire Wire Rope Slings, making them worthy of the name "Wickwire." This means that Wickwire stands behind *every* sling it sells.

You benefit from our thorough knowledge and experience when you use Wickwire Wire Rope Slings. You are assured of materials of the highest quality. And in using wire rope slings, there can be no compromise with quality. Too much is at stake—the safety of the handling crew, possible damage to costly materials, and loss of productive time.

When you specify Wickwire Wire Rope Slings you get product responsibility that assures safe, efficient and economical service. Wickwire Slings are made from wire rope and fittings with matched rated capacities.

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CF&I **WICKWIRE WIRE ROPE SLINGS**
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

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Fast, thorough steam cleaning for buildings, shop equipment, rolling stock—at a new low price for top performance, quality. Upgrader Junior's balanced high-impact cleaning solution penetrates cracks and crevices. Grease, clay, mud, tar, all vanish like magic. It's portable, efficient, easy to use. Develops steam in 70 seconds; pressures up to 140 p.s.i.

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The Alnor Pyrocon combines laboratory precision with production tool ruggedness to give you fast, accurate answers to all surface temperature problems. It takes just 3 seconds to give you the temperature of any surface...regardless of shape or material...revolving or stationary. And the heavy, shock-resisting movement is housed in a balanced unit that's compact, easy to handle.

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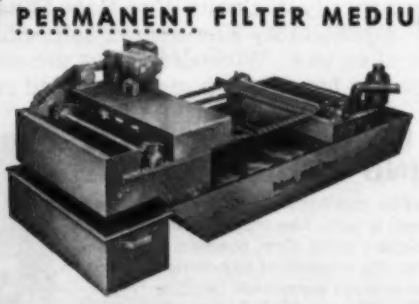
Filters Fine Solids...

Delpark UP-FLO Filter

WITH PERMANENT FILTER MEDIUM



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Backed by more than 40 years experience in Industrial Filtration

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVENUE • LEBANON, INDIANA

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New Literature & Catalogs

Electrical Contacts, Cold Headed Specialties

Deringer Metallurgical Corp.—Magnetic force spot-welding method described in 4-page bulletin can reduce costs as much as 50 per cent. Booklet describes "Electrical Contacts and Cold Headed Specialties" made of silver and other precious metals.

▲ For more details circle NED-926 J5 on enclosed inquiry slip ▲

Venetian Blind Manual

Levolor Lorentzen Inc.—An enlarged edition of the "Architects Manual for Venetian Blinds" identifies parts, explains their functions and gives detailed directions on how to handle special installation problems. Overhead pockets, blinds fitted around air conditioning units, pivot clearance installations, manual remote control and oscillating rollers for giant Venetian blinds are diagrammed in this 24-page booklet.

▲ For more details circle NED-927 J5 on enclosed inquiry slip ▲

Masonry Preservation

Tremco Mfg. Co.—Illustrated with over 50 photos, 16-page brochure "Masonry Preservation" thoroughly explores various kinds of masonry, effects of water absorption from without, vapor migration from within, methods of caulking and pointing joints prior to application of masonry preservatives.

▲ For more details circle NED-928 J5 on enclosed inquiry slip ▲

Electro-Mechanical Devices Production

Munston Mfg. & Service, Inc.—28-page booklet describes engineering and production facilities for wide range of electro-mechanical products. Services rendered to the Government and private enterprise by this company are detailed. Many of its products are illustrated.

▲ For more details circle NED-929 J5 on enclosed inquiry slip ▲

Threaded & Cylindrical Plug & Ring Gages

Winter Brothers Co.—34-page catalog No. 2 illustrates and specifies Balanced Action threaded and cylindrical plug and ring gages, and shows current net prices on stocked items. Screw thread standards for Federal services, tolerances and dimensions are provided.

▲ For more details circle NED-930 J5 on enclosed inquiry slip ▲

Controlling Corrosion with Zinc

American Zinc Institute—32-page illustrated booklet "How Zinc Controls Corrosion" describes many ways zinc lengthens life of steel products and reduces maintenance costs. Corrosion-control characteristics of zinc coating, pigments and zinc anodes are presented. Farm, industrial, marine and building applications are reviewed.

▲ For more details circle NED-931 J5 on enclosed inquiry slip ▲

Steel Belt Conveyors

Sandvik Steel, Inc., Sandvik Steel Belt Conveyors Div.—Basic features of Steel-Belt conveyors and capacities, adaptations and design are covered in 48-page, hard cover book. One section is devoted to pictures and descriptions of typical applications in various industries. Details of components are shown. Another section gives step-by-step illustrated description of construction of a typical steel belt conveyor.

▲ For more details circle NED-932 J5 on enclosed inquiry slip ▲

Maintenance Spray Painting

DeVilbiss Co.—Answers about the proper equipment for specific maintenance spray painting jobs are found in a new equipment guide (form M-50). It covers complete spray painting outfits, individual components and correct gun and nozzle combinations for use with all types of commercial materials.

▲ For more details circle NED-933 J5 on enclosed inquiry slip ▲

Cut Nails

Wheeling Corrugating Co.—Providing a 72-per cent tighter bond than conventional nails, LaBelle cut nails are used to lay hardwood floors, anchor wood to building blocks, apply furring strips to slag and cinder building blocks, and similar applications. Various types of cut nails are described and priced.

▲ For more details circle NED-934 J5 on enclosed inquiry slip ▲

Angle & Circle Measuring

Engis Equipment Co.—Precision instruments for the exact measurement of angles and circular spacings are tabulated and recommended uses are listed in data sheet No. 5506.

▲ For more details circle NED-935 J5 on enclosed inquiry slip ▲

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LEIMAN INTEGRAL AIR PUMP and MOTOR

28" Hg. Continuous Vacuum
20 lbs. Pressure

The new Leiman Integral Rotary Air Pumps permit more compact design, plus the famous "lifetime" Leiman performance for your packaging, printing, feeding office, milking, feeding, aerating, chucking and other equipment. Features include steel blades with automatic wing adjuster—noiseless rubber mounting—ball bearings—fan cooling—automatic oiling—oil-free air—automatic thermal motor overload protection. Get full details.

MODEL K
3.6 c.f.m. displacement
13½" long—12" wide
7" high

MODEL K-3
7.2 c.f.m. displacement
18½" long—15" wide
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WRITE for folder and prices giving full details. Also get 16-page catalog showing other types and sizes.

▲ For more details circle NED-936 J5 on enclosed inquiry slip ▲

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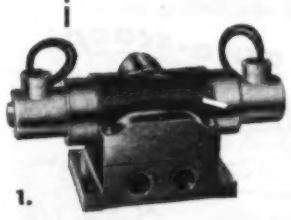
Easier to apply... Compact, versatile; choice of 3 mountings and 7 manual, solenoid, cam or pilot operating means for pneumatic, hydraulic systems to 200 p.s.i.

Easier to install... Sub-base, console and panel, or conventional piped mountings available. Made in ⅜", ½", ¾" and 1" NPT port sizes.

Easier to service... Only moving part is one-piece spool carrying all moving seals which are standard "O" rings stocked by industrial supply houses; replaceable in minutes—no springs or retainers.



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4-way double solenoid MV is only 9¾" x 3½" x 2⅝" overall (½" NPT ports); handles to 150 p.s.i.

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Modernair CORPORATION
ROOM F9 400 PREDA ST. • SAN LEANDRO, CALIF.

▲ For more details circle NED-937 J5 on enclosed inquiry slip ▲

UDY-GUARD YOUR ANODE RODS

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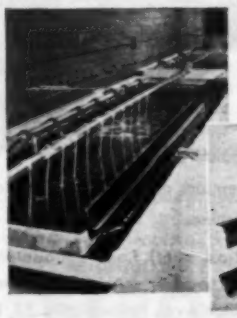
Since Udy-Guard is completely insulated it helps prevent shorting out your plating tank. It's easily installed without tools—just clips on the anode rod.



Udy-Guards cost only $1.50 per foot for lengths up to 3½ feet. $1.35 per foot for 4 to 8 foot lengths. Send your order today.

WORLD'S LARGEST PLATING SUPPLIER

THE Udylite CORPORATION
DETROIT 11, MICHIGAN

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To cut Maintenance Cost

You Need...

Self-Aligning advantages of Shafer Roller Bearings that instantly compensate for shaft deflections. In ordinary bearings this misalignment causes binding, skewing... power loss.

High Capacity...of Shafer ConCaVex, the original low friction, high capacity bearing. This design carries radial, thrust and shock loads in the same high-capacity area in the center of the roller.

Easy Adjustment...to compensate for wear as provided by the Shafer exclusive Micro-Lock. With nothing more than a screw driver, you can make adjustment in increments of .007".

Send for Catalog 51. Shafer Bearing Division, 801 Burlington Ave., Downers Grove, Illinois.

SHAFER BEARING DIVISION

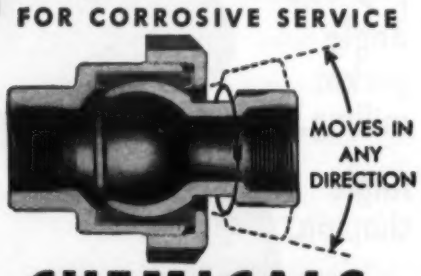
CHAIN BELT COMPANY

▲ For more details circle NED-939 J5 on enclosed inquiry slip ▲

BARCO *Flexible* **BALL JOINTS**

FOR CORROSIVE SERVICE

—when you need movable joints in piping handling



CHEMICALS

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- Provides for movement in piping—up to 40° side flexibility, plus 360° rotating movement.
- Stainless steel and chemically inert gaskets for strong chemicals. No metal-to-metal contact. Choice of body materials.
- One Barco Ball Joint does the work of two or more ordinary swivel joints because "it moves in any direction!"
- Many models available. For pressures to 7,500 psi; temperatures to 1000°F. 15 different sizes, ¼" to 12". *Ask for recommendations.* BARCO MFG. CO., 530K Hough Street, Barrington, Illinois.

THE ONLY TRULY COMPLETE LINE OF FLEXIBLE BALL, SWIVEL, SWING AND REVOLVING JOINTS

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NOW TROUBLE-FREE deburring & countersinking

with the NEW **FORD** UNIFLUTE COUNTERSINK

Engineered for maximum efficiency with simple *single flute design*, FORD'S new high speed steel Uniflute *ends all deburring and countersinking troubles* on soft stringy steels, aluminum, brass, bronze, plastic, rubber, wood and other materials. FORD'S new HSS Uniflute covers *a wide range of hole sizes with one diameter tool.* Its cutting action is effective from the working point to the major diameter. Job-engineered shear angles allow superior free cutting, insure trouble-free action, even at higher speeds.

FREE information • **Bulletin HSS 408** gives complete information about Ford's new Uniflute countersink, plus easy 4-step instructions on how you can resharpen the Uniflute in your own tool room.

Catalogue No. 207 gives all facts on more than 277 FORD rotary tools including HSS ground cutters, rotary files, countersinks; CARBIDE cutters, end mills, grinding burs. **Send today!**

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Pioneers in rotary tools for more than 30 years
721 W. River Street, Davenport, Iowa

FORD regrinding service adds tool life, reduces tool costs!

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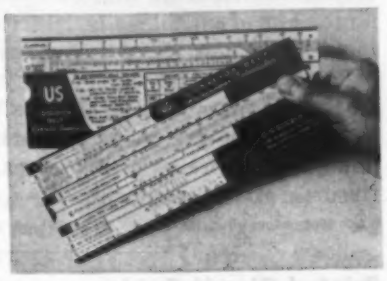
New Processes & Materials

CONVEYOR BELT CALCULATORS for horsepower and carcass selection



Design of conveyor belt installation is greatly simplified with these two slide rules. They are a horsepower calculator and a carcass or belt fabric selector. Data contained in a 40-page conveyor belting handbook are incorporated in these calculators. A maximum of seven settings will yield data on drives for level, incline or decline, manually-operated tripper and self-tripper systems. Carcass selector indicates the right belt fabric, as well as maximum and minimum number of plies for proper troughing and minimum pulley diameters for the entire system. Once horsepower is known, fabric is selected in two settings. Offered by **United States Rubber Co.**, Mechanical Goods Div., Dept. NED, 1230 Sixth Ave., New York 20, N. Y.

▲ For more details circle NED-942 J5 on enclosed inquiry slip ▲

GALVANIZING REPAIR STICK restores damaged zinc coatings

Any area where the zinc coating of galvanized sheets, shapes or fittings has been damaged or destroyed by welding, flame-cutting or bending can be regalvanized with the ReGalv repair stick. This crumbleproof metal alloy stick is rubbed over the weld or other hot surface to be recoated. It melts and bonds at temperatures as low as 600° F. Only pretreatment required is removing loose scale. Coating needs no flux and compares favorably with the characteristics of the original galvanizing. Made by **RotoMetals**, 982 Harrison St., San Francisco 7, Calif.

▲ For more details circle NED-943 J5 on enclosed inquiry slip ▲

SOLDERING FLUX in small cans for occasional use

Self-cleaning nonacid La-Co regular flux is now offered in 2-oz cans for use on occasional maintenance or other jobs. It is usable with variety of solders and assures perfectly-alloyed joints without preparatory wire brushing or sanding. It cannot stain or harm metal or clothing. Offered by **Lake Chemical Co.**, 3052 W. Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-944 J5 on enclosed inquiry slip ▲

NEW! USG **SUPERGAUGE®**

- With proper application this new Supergauge will last a lifetime!
- Legend on dial gives complete description of gauge construction. Maintenance engineer can pick proper gauge from his stock.
- Nylon-faced stainless steel segment with stainless steel pinion and stainless bushed bearings give lifetime service!
- *For your convenience* MONO-UNIT CONSTRUCTION Permits easy removal of complete gauge assembly for inspection and adjustment. ARC-LOC MOVEMENT Provides complete and rapid adjustment from rear without removal of dial.

MICROMETER ADJUSTABLE SELF-LOCKING POINTER

Above features are also available in USG Solfrunt Gauges with solid front construction.

UNITED STATES GAUGE USG *Gauge Headquarters* for over 50 years

United States Gauge, Division of American Machine and Metals, Inc., Sellersville, Penna.

▲ For more details circle NED-945 J5 on enclosed inquiry slip ▲

Actionflex

FIBERGLASS - SILICONE LAMINATED TUBES AND DUCTS

. . . Tough and durable Actionflex Fiberglass - Silicone laminations are the answer for connecting vibrating parts without corroding, cracking, or delaminating. Actionflex is extremely light weight and flexible. The use of standard couplings or special couplings and bonds designed to fit engineers' specifications is an important feature of Actionflex.

Manufactured to meet your specific engineering requirements for

• TUBES • DUCTS • LINES • COUPLINGS • SLEEVES

MANUFACTURED BY THE MAKERS OF **Actionrod**

WRITE FOR BULLETIN

ACTIONFLEX Division, ORCHARD INDUSTRIES, INC. Hastings, Michigan

▲ For more details circle NED-946 J5 on enclosed inquiry slip ▲

MONARCH INDUSTRIAL SOLID TIRES

Specified as original equipment Demanded for replacement

The secret of Monarch tires' superior performance is new COMPOUND T-48C . . . the toughest *natural rubber* stock developed to date. This stock and the heavy-duty lug tread pioneered by Monarch are setting new mileage and economy records on materials handling trucks of all types.

By continual research and field testing . . . and by concentrating on a single quality product . . . Monarch has developed a complete line of *performance-proven* solid tires.

That's why lift truck manufacturers and users specify Monarch tires. They wear better . . . last longer . . . cost less.

FOR DETAILS AND PRICES, WRITE FOR BULLETIN TD-200.

6466-MR

THE **MONARCH** RUBBER COMPANY
260 LINCOLN PARK • HARTVILLE, OHIO
7-255 General Motors Bldg., Detroit 2, Mich.

▲ For more details circle NED-947 J5 on enclosed inquiry slip ▲

SAVES MORE BY DOING MORE

Here is a powerful, portable 'Budgit' Aluminum Chain Block in action. It's a one-man hoist — light, easy to carry, hang up and use. It speeds and simplifies load handling everywhere — in maintenance and production, on receiving and shipping platforms, on construction projects.

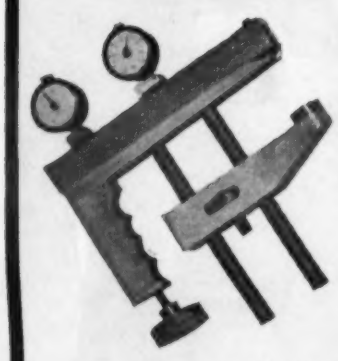
The ¼-ton 'Budgit' Aluminum Chain Block weighs a mere 29 lbs. Its spur-geared efficiency is so high, a hand chain pull of only 25 lbs. lifts the full load! For easy, smooth operation; for ruggedness and safety, no other chain block of like capacity can beat the 'Budgit'. Capacities: ¼ up to 10 tons. Ask the nearby "Shaw-Box" Distributor for a demonstration — or write for Bulletin 398 and convince yourself!

'Budgit'® CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' and 'American-Microsen' Industrial Instruments, and Aircraft Products.

▲ For more details circle NED-948 J5 on enclosed inquiry slip ▲



Portable hardness tester with bench model accuracy

Any inspector working with the Riehle Portable Hardness Tester can obtain the same Rockwell readings as with a bench-type model. In fact, one manufacturer of jet engine components checks hardness of every piece with Riehle portables *only*. Tests *must* be accurate or components could fail under operating conditions. Riehle portables weigh but a few pounds . . . accurately test inside and outside surfaces of parts inaccessible or otherwise difficult to test.
• Rockwell scales: A, B, C, D, F and G. For specimens up to 12" diameter or thickness.

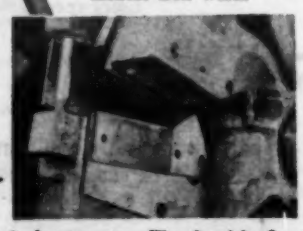
FREE BULLETIN — WRITE DEPT. NED-955

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

▲ For more details circle NED-949 J5 on enclosed inquiry slip ▲

BATEMAN POWER SHEAR
New Low-Cost Angle & Flat Iron Cutter

- No grinding necessary after cut.
- Cuts angles up to 2" x 2" x ¼" and flats up to ¼" x 4".
- Flywheel with a gear drive for power with a small motor.
- A one stroke cycle clutch operated by either hand or foot.
- With clutch open, will make 44 strokes per minute.
- Made of high grade cast iron, hardened clutch and clutch pin, shear steel blades.
- From floor to top of machine—56" with stand. Floor to shear blade—36". Floor space required —24" x 27".
- Shear has punch attachment that will punch ⅜" through 3/16" material. ($45.00 extra).
- With notched blade—will cut up to ¾" rounds, or ⅝" reinforcing rod.
- Special blade and punch for ornamental iron work.



¾ HP. motor required for power. We furnish 2-groove motor pulley and 2 belts when ordered without motor. Shipping wt. approx. 485 lbs., without stand. With stand, 560 lbs.

Nothing like it on the market today. With motor and stand $450.00

BATEMAN FOUNDRY & MACHINE CO.
MINERAL WELLS, TEXAS

▲ For more details circle NED-950 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Optical Tooling

Farrand Optical Co.—A complete line of optical tooling instruments and accessories for checking and alignment of machines is described in illustrated catalog. Many new items are shown to simplify the task of checking straightness of ways, parallel bars, angle blocks, angular relationship between bed and spindle axis, and for alignment of machinery such as lathes, millers, jig borers, drill presses, spar mills, jigs and fixtures and ship machinery.

▲ For more details circle NED-951 J5 on enclosed inquiry slip ▲

Printed Circuit Guidance

National Vulcanized Fibre Co.—Just reprinted, 12-page second edition of "Mechanize Your Wiring—With Copper-Clad Phenolite" uses photographs, schematics and tables to depict the advantages of printed circuitry over conventional hand wiring methods. It also includes a discussion of the economics of printed circuits and describes the ways in which printed circuits are produced.

▲ For more details circle NED-952 J5 on enclosed inquiry slip ▲

Stainless Pipe Engineering Data

Cooper Alloy Corp. — 16-page stainless steel "Engineering Data Book" contains design and dimensional information on flange drilling templates, flange and ring-joint facings, stainless steel pipe, pipe threads, thread engagement, pressure-temperature ratings and conversion factors, resistance of fluid flow, hardness conversion tables, metal casting factors, and physical and mechanical properties of stainless steel. Detailed materials selection chart covers more than 300 corrosive solutions.

▲ For more details circle NED-953 J5 on enclosed inquiry slip ▲

Lift Truck Selection

Hyster Co.—"How to Select a Lift Truck" is subject of an industrial equipment analysis guide and rating table for comparison and selection of industrial fork lift trucks. As many as four different trucks can be compared and analyzed on this chart. Ask for forms 1406 and 1411.

▲ For more details circle NED-954 J5 on enclosed inquiry slip ▲

Turret Type Work Holder

Hartford Special Machinery Co.—20-page illustrated catalog S-103 is descriptive of 8 and 12-in. Hartford Special Super-Spacers. These machine tool accessories are basically a heavy turret on which is mounted a hardened and ground precision index plate and a self-centering chuck or other work-holding means. It is particularly suited to precision drilling, milling, boring and grinding operations.

▲ For more details circle NED-955 J5 on enclosed inquiry slip ▲

Cutting Equipment

Hobbs Mfg. Co.—Complete line of cutting equipment described in 12-page brochure EC 6-55 includes hand and bench shears, work tables, a universal shear, a standard power shear and automatic and semiautomatic production cutters. Piece also emphasizes company's engineered cutting service which serves to customize any type of installation. Production cutter described handles 60-in. wide materials at feed speeds of 6 to 150 fpm.

▲ For more details circle NED-956 J5 on enclosed inquiry slip ▲

Wire Cloth & Screen

Multi-Metal Wire Cloth Co.—Described in 4-page illustrated bulletin 551 are Metallic Septa wire cloth, filter cloth, and Neva-Clog and Mykro-Pore perforated sheet materials for filtering, screening and straining operations; research and engineering facilities of this company; and typical wire cloth and screen fabrications which can be produced to meet any need.

▲ For more details circle NED-957 J5 on enclosed inquiry slip ▲

Rubber-Phenolic Design File

Offered as a complete manual on the application and selection of rubber-phenolic materials for design and engineering executives, revised "Design File" No. CDC-237A contains the latest data on uses of these materials in electrical equipment, appliances, electronics and machinery. Twenty-five concise case histories serve as a guide to the evaluation and use of rubber-phenolics. Properties of available molding compounds are given. Book is available only by writing on company letterhead to General Electric Co., Chemical Materials Dept., 1 Plastics Ave., Pittsfield, Mass.

▲ For more details circle NED-958 J5 on enclosed inquiry slip ▲

NOW! LIFT RECORDS PLUS...

..BUSY AND IDLE TIME
CHARTED BY SERVIS RECORDER

Now a new model Servis Recorder! Equipped with a Barksdale Hydraulic Pressure Switch, it records every productive load that exceeds a predetermined weight. Doesn't "weigh" a load, merely tells number of "good loads" a truck makes every day.

Originated in 1911, Servis Recorders have been faithfully charting idle and running time of industrial equipment. Now on the same permanent record you can get more complete cost information for each of your trucks. These same easily read charts are accurate for accounting needs, incentive pay systems and for maintenance scheduling.

Write today for complete facts.

THE SERVICE RECORDER COMPANY
1375A Euclid Avenue • Cleveland 15, Ohio

▲ For more details circle NED-959 J5 on enclosed inquiry slip ▲

Now! DO ALL THESE

Angle pocket milling
Angle shaping
Angle grinding
Angle drilling
Angle milling
Angle checking

on standard machines with a Wesson Precision Angle Vise

2 models immediately available
4" maximum jaw opening, 4" jaw width
1⅜" maximum jaw opening, 3" jaw width

Ask for illustrated bulletin describing Wesson Universal Vises and Angle Plates.

Wesson Products Company
1220 Woodward Heights Blvd. • Detroit 20, Michigan

▲ For more details circle NED-960 J5 on enclosed inquiry slip ▲

THE BIG FEATURE OF T-E'S *NEW* TEMPERATURE-INDICATOR IS: *ACCURACY.*

Facts about this manual-balance indicator: (1) Resistance thermometer type can measure temperature changes as small as 0.02°F due to its electronic galvanometer. (2) It's also accurate—better than ¼ of 1% of scale range. (3) 23 ranges from —320° to +200°F all the way to 0 to 3000°F. (4) Can be used with thermocouples or resistance bulbs and connected through toggle switches, rotary switches, or quick-coupling connector panels.

Interested? Write for bulletin 63-T.

Thermo Electric Co., Inc.
SADDLE RIVER TOWNSHIP, Rochelle Park P.O., NEW JERSEY
CANADA • THERMO ELECTRIC (Canada) Ltd., BRAMPTON, ONT.

▲ For more details circle NED-961 J5 on enclosed inquiry slip ▲

USE ROLLPIN®

. . . eliminating hole-reaming operations and secondary fastening devices, Rollpin locks in place when driven into standard production drilled holes, yet can be easily drifted out and used over and over again. This slotted tubular steel spring pin with chamfered ends is as strong as a solid pin of the same diameter. It's simplifying assemblies and cutting costs for thousands of industrial users . . . and it can do the same for you. Design information available on request. Dept. R34-937.

ROLLPIN TRADEMARK
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road • Union, New Jersey

▲ For more details circle NED-962 J5 on enclosed inquiry slip ▲

LEXCO HYDRAULIC LIFT TABLES

save *money, time and energy*

Lift heavy castings, dies, machine accessories and other heavy articles—Use as adjustable work bench—Welder's positioning table—Leveling Table for Presses, conveyors, loading trucks, etc. Many other uses too numerous to mention.

Pat. Pend.

- A new specially engineered method to give hydraulic power and ease. Table capacity 2000 lbs.—Hydraulic unit 3000 lbs.
- Table is 30" long by 20" wide by 30" overall height with an 18" raise to 48" overall height—hand pumped. Lowered fast or slow with simple release valve.
- Equipped with floor lock to anchor truck in position; controlled by foot pedal, toe release.
- Mounted on Two 5" rigid casters and two 5" swivel casters. All casters with bearings in axles.
- A safety first item to eliminate fractured limbs and strained muscles.

list $187 f.o.b Lansdale, Pa. Dealers Write

LEXCO ENGINEERING & MFG. CORP.
P. O. BOX 161—DEPT N. COLMAR, PA.

▲ For more details circle NED-963 J5 on enclosed inquiry slip ▲

A NEW FASTENER...A NEW TYPE OF FASTENER
DIE-CAST ROUND-HEAD THUMB NUTS & SCREWS with GRC's exclusive WIDE GRIP feature

Generous width assures firm, comfortable grip; rounded, scalloped edges.

3 standard head diameters; all standard thread sizes; both open-end and closed-end thumb nuts; thumb screws with and without shoulders. *Write today for samples, prices and bulletins . . . or ask for quote on special needs.*

Mass produced in rust-proof zinc alloy at low cost, with eye appeal to help sell your product.

As in all other GRC quality fasteners—wing nuts, cap nuts, wing screws—threads are clean and accurate.

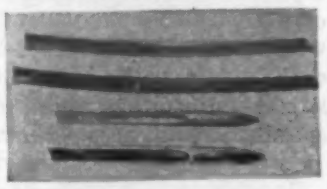
GRIES World's Foremost Producer of Small Die Castings

GRIES REPRODUCER CORP.
143 Beechwood Ave., New Rochelle, N. Y. Phone: NEw Rochelle 3-8600

▲ For more details circle NED-964 J5 on enclosed inquiry slip ▲

New Processes & Materials

STRIPPABLE SPRAY COATING protects parts during shipment



Highly polished chromium and stainless steel parts can be protected in shipment by a strippable spray coating about 0.01-in. thick. Based on Bakelite vinyl resins, the cushioning coating is resistant to moisture and abrasion, yet is easily stripped off. Material over-sprayed during application can be recovered for reuse. Infrared lamps cure the sprayed-on plastisol to an elastic film in an oven at 325° F. Similar coatings can be dip or flow-coated hot or cold on metal parts. Made by **Dennis Chemical Co.**, 2703 Papin St., St. Louis 3, Mo.

▲ For more details circle NED-965 J5 on enclosed inquiry slip ▲

MAINTENANCE PAINTING AID solutions offered to problems

A unique "painting analysis" service is now being offered to companies and others faced with commercial, industrial or institutional maintenance problems. Service is offered as a means of curtailing costly maintenance care, improving protection afforded structural members and equipment, correcting conditions which lower efficiency or which are safety hazards, and to reduce overall operating expenses. Expert technical guidance is available to aid in selecting the proper finish for practically any maintenance need. Also provided is assistance from Glidden Color Studio experts for color recommendations. Technicians will demonstrate various finishes and will train maintenance personnel in their use and application. Service offered by **Glidden Co.**, Berea & Madison Ave., Cleveland 2, O.

▲ For more details circle NED-966 J5 on enclosed inquiry slip ▲

TACK CLOTH for wood and metal wiping

Dust and grit particles can be removed from metal and wood surfaces prior to finish application by the Tac-All tack cloth. Tack substance used to impregnate the cloth resists drying indefinitely and cannot cause spontaneous combustion. It is nonreactive on any metal surface. Dust and dirt particles are absorbed into the cloth so they will not cause abrasive action. Made by **George W. Renner Co.**, 5422 Smith St., Ft. Wayne, Ind.

▲ For more details circle NED-967 J5 on enclosed inquiry slip ▲

No. 4* of 12 REASONS WHY YOU SHOULD BUY AND USE LOW-PRICED HOMESTEAD Lubricated PLUG VALVES

Send for Reference Book #39-5

Low friction Teflon washer permits spring to turn with plug. This means that less maintenance and longer life are assured, because the spring is subjected to compression only.

This is only one reason why you should BUY AND USE *low-priced* HOMESTEAD LUBRICATED PLUG VALVES.

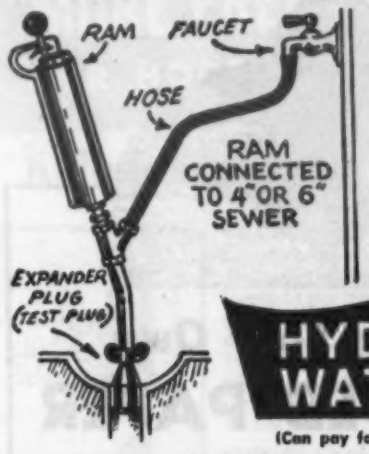
HERE ARE ALL TWELVE

1. Long valve life assured by very close tolerance between sealing surfaces.
2. Straight line fluid flow—streamlined ports—minimum resistance to flow—minimum pressure drop.
3. Triple head seal—two lubricant rings, reinforced Teflon stem seal prevent leakage.
4. Easy turning—plug floated on Teflon washer and reinforced Teflon ring.
5. Leak-proof double be't, lubricant sealed check valve. No springs. No maintenance.
6. Full-threaded screw prevents dirt being forced into lubricant system.
7. Quarter-turn fully opens or closes.
8. Reinforced Teflon stem seal—no cold flow—continuous, positive seal.
9. Seating surfaces protected in both open and closed positions.
10. High pressure lubricant system provides full lubricant seal around ports.
11. Self-freeing plug prevents sticking.
12. Two lubricants handle most services.

HOMESTEAD VALVE MANUFACTURING CO.
P. O. BOX 84 CORAOPOLIS, PA.

▲ For more details circle NED-968 J5 on enclosed inquiry slip ▲

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

HYDRAULIC WATER RAM
(Can pay for itself in one application)

Why lose time, suffer inconvenience, waste dollars on needlessly costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris, other blockage into fragments easily flushed down to main. Works perfectly, *vent or no vent!* Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Write for Information, Prices, Details of Free Trial Offer!

HYDRAULIC MANUFACTURING CO.
Dept. ND-9 Kiel, Wisconsin

▲ For more details circle NED-969 J5 on enclosed inquiry slip ▲

45 acres of fixtures at new Ford plant maintained at lower cost with Up-Right Scaffolds...

"UP-RIGHT" Aluminum Alloy SCAFFOLD-ON-WHEELS

This Aluminum Alloy scaffold provides the most economical and practical means to maintain overhead equipment in any plant, large or small. A tower of any height desired is ready in minutes. Individual 1-piece sections are unfolded and set one on top of the other. They lock into place instantly . . . no tools, wing nuts or bolts.

Your maintenance costs can be reduced by Up-Right Scaffold-on-wheels.

Write for descriptive circular!

"UP-RIGHT" SCAFFOLDS
DEPT 145 • 1013 PARDEE STREET • BERKELEY, CALIF.
FACTORIES: Berkeley, Cal. and Teterboro, N. J. Offices in all Principal Cities

▲ For more details circle NED-970 J5 on enclosed inquiry slip ▲

Produce Your Own

SHREDDED PAPER

Quickly—Easily—At Very Little Cost

The "Silver 13-C" Paper Shredder saves time, money, and space . . . shreds all papers—from tissue to corrugated—giving you wonderful packing material in just a few minutes. Test this model—or any other "Silver" Paper Shredder—in your own plant, without obligation. Write today for complete details and free literature.

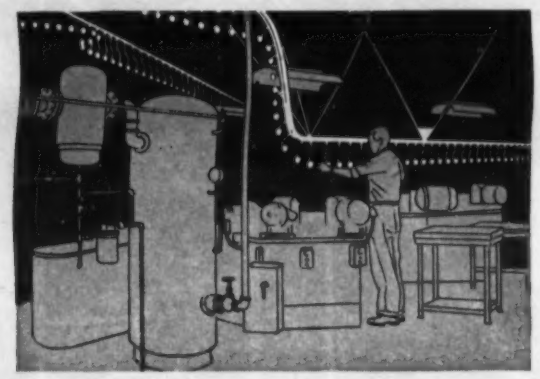
INDUSTRIAL SHREDDER & CUTTER CO.

107 Mill Street Salem, Ohio

▲ For more details circle NED-973 J5 on enclosed inquiry slip ▲

Chainveyor Performance Outstanding in Light Trolley Conveyer Field

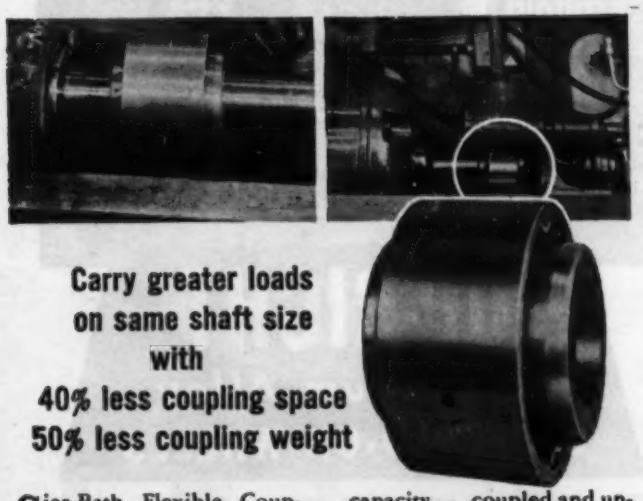
ELLWOOD CITY, PA.—Many manufacturers are finding the answer to their problem of overhead handling of small parts in the CHAINVEYOR. The Chainveyor is a light overhead trolley which is extremely flexible and easily installed. It is recommended wherever light overhead conveying equipment is required. Call in your Mathews representative, or ask for a Chainveyor catalog. Write: MATHEWS CONVEYER COMPANY, Ellwood City, Pa.



MATHEWS

▲ For more details circle NED-974 J5 on enclosed inquiry slip ▲

Get More Compact Direct Drives!



Carry greater loads on same shaft size with 40% less coupling space 50% less coupling weight

Sier-Bath Flexible Couplings eliminate heavy, bulky flanges, nuts and bolts. They have a simple, 7-part construction—forged steel sleeve, 2 hubs, 2 neoprene seals, 2 snap rings. Result—a flexible coupling that is smaller, lighter, with greater capacity . . . coupled and uncoupled in seconds . . . reduces strain on shafts, bearings, armatures . . . yet is strong and safe as a smooth shaft. Sizes from ⅜ to 12, hp. 4 to 4500, many types. See "Yellow Pages" for dealer—write us for Catalog C-4.

Sier-Bath GEAR & PUMP CO., INC. 9240 Hudson Blvd., North Bergen, N. J. 50th Anniversary • Member A.G.M.A. Also Mfrs. of Precision Gears, Rotary Pumps

Sier-Bath Flexible **GEAR COUPLINGS**

▲ For more details circle NED-975 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Palletizing Machine

Food Machinery & Chemical Corp., Packaging Equipment Div.—Bottlenecks and headaches associated with manual pallet loading can be eliminated with the automatic Lock-Load Palletizer which is described in bulletin No. 406000. This machine palletizes uniform size cases in interlocking patterns at speeds up to 36 cases per minute.

▲ For more details circle NED-976 J5 on enclosed inquiry slip ▲

Hydraulic Equipment Handbook

"Hydraulic Operation and Control of Machines" is title of 319-page handbook and reference source for engineers concerned with hydraulic applications of all kinds. This nonmathematical treatise explains basic principles of hydrostatics; covers pumps and motors, valves and circuits, and power-saving devices; and concludes with a study of the use of hydraulic machinery in the field of machine tools, mining, agriculture, aeronautics, marine engines and lifting devices. Price is $7.50 from Ronald Press Co., 15 E. 26th St., New York 10, N. Y.

▲ For more details circle NED-977 J5 on enclosed inquiry slip ▲

Rust-Inhibiting Wrapping

Cromwell Paper Co.—Ferro-Pak volatile corrosion inhibitor paper for protection and packaging of ferrous products during handling, storage and shipment is subject of two illustrated bulletins. Suggested uses, performance data and advantages of this material are cited.

▲ For more details circle NED-978 J5 on enclosed inquiry slip ▲

Electric Panel Instruments

Weston Electrical Instrument Corp.—12-page illustrated catalog A38B contains full specifications on line of approved ruggedized and sealed panel instruments in 1½, 2½, 3½ and 4½-in. sizes; ac, dc, rf and thermo; in military and commercial types. They can be opened and resealed readily with screwdriver. Meters assure dependable service under extremes of shock, vibration, temperature, humidity and general abuse.

▲ For more details circle NED-979 J5 on enclosed inquiry slip ▲

Automatic Weldment Cleaning

American Wheelabrator & Equipment Co.—Automatic cleaning of rust, flux and spatter from welded pieces is readily accomplished by abrasive blast cleaning equipment detailed in illustrated bulletin PE-6. Case histories show how blast cleaning in a Wheelabrator machine reduces weldment grinding time by 75 per cent.

▲ For more details circle NED-980 J5 on enclosed inquiry slip ▲

Water Flow Controls

Dole Valve Co.—Installed directly in the water line, the Dole flow control valve is designed to deliver a constant 3-gpm flow regardless of line pressure. How this device conserves water in showers, drinking fountains and faucets is explained in 6-page folder "Save Water—Save Money."

▲ For more details circle NED-981 J5 on enclosed inquiry slip ▲

Shielded Arc Welding Equipment

Air Reduction Sales Co.—Advantages and applications of Aircomatic inert-gas-shielded metal arc welding equipment are presented in 16-page illustrated catalog 2350. Manual and automatic units, as well as accessory apparatus and welding wire, are described.

▲ For more details circle NED-982 J5 on enclosed inquiry slip ▲

Mining, Material Handling & Processing

Jeffrey Mfg. Co.—Pocket-size 48-page illustrated booklet No. 888 presents a clear and concise picture of the mining, material handling and processing equipment made by this company. Also detailed are the facilities of this company in machine tools and skilled mechanics for producing every type of mechanical, electrical or hydraulic machine or component.

▲ For more details circle NED-983 J5 on enclosed inquiry slip ▲

Cutting Costs with Industrial Trucks

Elwell-Parker Electric Co.—Twenty-four cost-cutting ideas with industrial trucks, taken from all major industries, are presented in illustrated broadside. Both standard and specially designed power trucks are covered, including fork, low and high-lift platform, crane and tractor models.

▲ For more details circle NED-984 J5 on enclosed inquiry slip ▲

MAKE SPRINGS IN SECONDS!

SAVE COSTLY SPECIAL ORDERS

NEW DI-ACRO* SPRING WINDER

This unique machine eliminates costly special spring orders, saves valuable waiting time. Winds flat, torsion, compression and extension springs to 1½" O.D. Handles round, flat and rectangular wire to ⅛" dimension. Exclusive features in the hand operated Di-Acro Spring Winder assure accurate tension and fast operation without special experience or skill.

FREE ENGINEERING SERVICE

Send us your spring forming problems—samples or dimension sketches—together with sufficient test material, and let us wind some sample springs for you free of charge. No obligation.

32-Page Catalog gives complete details on all Di-Acro Precision Machines—Spring Winders, Benders, Brakes, Shears, Punch Presses, Notchers, Rod Parters, Rollers, Press Brakes.

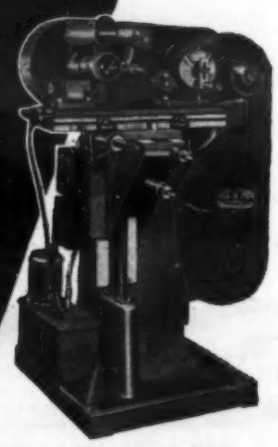
*Pronounced Die-ack-ro

O'NEIL-IRWIN MFG. CO.
354 8th Ave. • Lake City, Minn.

▲ For more details circle NED-985 J5 on enclosed inquiry slip ▲

outstanding accuracy at lowest cost!

Find out how fast, accurate and economical small milling *can be!* U. S. Burke milling machines provide outstanding quality, dependability and convenience in operation . . . for hundreds of dollars less than leading competitors. Investigate U. S. Burke time and money-saving performance now!



U. S. No. 1 HAND MILLING MACHINE . . . half the cost, twice the value!

A top-quality precision production tool . . . priced so low it's actually profitable to spot it around "looking for work" that can be kept out of the milling section. Accurate, rigid, simple and adaptable. Easily equipped with air-hydraulic feeds for high production. Detailed literature on request.

THE U.S. Burke MACHINE TOOL DIVISION
2 BROTHERTON ROAD, CINCINNATI 27, OHIO

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PIPE 1/8" thru 30"

For Every Need

"FASTER FROM FOSTER"

TESTED AND STRUCTURAL

SPIRAL WELD
SEAMLESS
ELECTRIC WELD
LAP WELD
CONTINUOUS
BUTT WELD

FOSTER Specializes In STEEL PIPE

Call us when you need pipe — you'll appreciate the fast, dependable convenience of buying from pipe specialists. We also maintain complete Shop Facilities for every type of fabrication work.

PROMPT SHIPMENTS From Our COMPLETE WAREHOUSE STOCKS

Send for Stock Lists and Catalog NE-9

RAILS - TRACK EQUIPMENT - PIPE - PILING

L. B. FOSTER co.

PITTSBURGH 30, PA. • NEW YORK 7, N. Y. • CHICAGO 4, ILL.
ATLANTA 8, GA. • HOUSTON 2, TEX. • LOS ANGELES 5, CAL.

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READY POWER FOR STANDBY OR CONTINUOUS DUTY!

KATOLIGHT EMERGENCY POWER keeps vital electrically operated machinery equipment functioning continuously in spite of power breakdowns. Katolight Units are available in sizes up to 400 KW . . . can be equipped with optional safety and signal controls and switches that automatically transfer the load from regular to emergency power. All engines are of standard manufacture . . . Diesel, Natural Gas, Propane, Butane. Katolight Power is in use the world over. C.S.A. Approved.

KATOLIGHT PORTABLE POWER PLANTS Speed work crews, cut costs. Plug in time-saving electrical equipment and tools anywhere with Katolight Portable Power Plants. Ideal for civil defense, fire and rescue squads. Capacities from 500 to 2500 Watts and larger.

WRITE TODAY FOR DESCRIPTIVE FOLDER

Katolight CORPORATION
Box 891-76 Mankato, Minnesota

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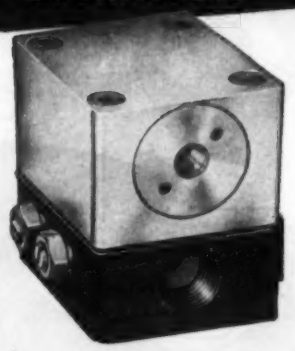
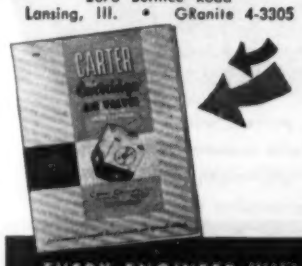
AUTOMATION AT LOW COST ... ON ANY OPERATION

WITH THE CARTER Cartridge AIR VALVE



Now, completely automate *any* air cylinder operation. Speed up production with positive, fast action cycles. Solenoid or air poppet control. Stainless steel and nylon wear-parts for long wear. Ask your Carter representative or write.

Carter Controls, Inc.
2876 Bernice Road
Lansing, Ill. • GRanite 4-3305



IT'S UNITIZED!

- Cartridge Solenoids
- Cartridge Lever or Palm Poppets
- Cartridge Power-Head
- Nylon and Stainless Wearing Parts
- Corrosion Proof Construction
- Built-in Speed Controls
- Simplified Maintenance

Once installed, all working parts may be replaced without removing valve or disturbing any existing pipe connections.

EVERY ENGINEER WILL WANT A COPY OF THIS NEW BULLETIN

▲ For more details circle NED-989 J5 on enclosed inquiry slip ▲

NOW, ANOTHER DE-STA-CO FIRST...
3 NEW PORTABLE CLAMPS WITH TRIGGER-RELEASE!

Model 484

DE-STA-CO

Model 482

Model 486

Instant easy action enables operator to release clamp *with one hand!*

TRIGGER-RELEASE—Finger pressure on Trigger instantly throws jaws wide open, ready for next clamping action.

GREATER CLAMPING PRESSURES—Up to 1,200 pounds may be exerted. Normal operating pressures of 300 to 500 pounds are easily obtained.

RUGGED CONSTRUCTION—60% heavier heat-treated forged components. Hardened bushings locked with spun rivet.

Get all details! Write for DE-STA-CO Bulletin 482-4-6!

DE-STA-CO DETROIT STAMPING COMPANY
World's FIRST Line of TOGGLE CLAMPS
360 Midland Avenue • Detroit 3, Michigan

▲ For more details circle NED-990 J5 on enclosed inquiry slip ▲

New Processes & Materials

PAINT REMOVER
can be rinsed off with water

Paint, varnish or lacquer dissolves in R. P. O. so that it can be rinsed completely off of metal, wood, concrete, brick and other surfaces. Finish is flushed out of holes, cracks, crevices and seams. This paint dissolver is brushed, sprayed or poured on the surface to be cleaned. It is allowed to remain on surface 10 to 30 minutes, depending upon the age, nature and thickness of the finish to be removed. Surface is then rinsed with a stream of water or wiped with a wet sponge or cloth. Surface can be repainted when it dries, if desired. This material is available as viscous, water-thin or paste liquid. Standard alkaline viscous liquid is packaged in 1 pint to 50-gal containers. Made by **Creative Chemical Co.**, 2729 E. Nine Mile Rd., Hazel Park, Mich.

▲ For more details circle NED-991 J5 on enclosed inquiry slip ▲

SCALE REMOVER
for condensers and heating coils

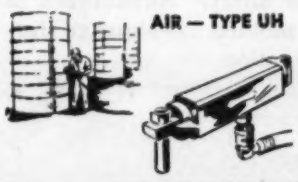
Rapid removal of scale from evaporative coolers, condensers, heat exchangers, hot water heating coils, boilers and similar heating and evaporative equipment is possible with Mogul Kwik-Kleen. It is practically harmless to the skin or clothing, and can be used by workers without need of goggles or safety clothing. It is packaged in moistureproof measured bags which are merely dissolved in water for use. It is nontoxic and produces no fumes. Made by **North American Mogul Products Co.**, Dept. K. K., Standard Bldg., Cleveland, O.

▲ For more details circle NED-992 J5 on enclosed inquiry slip ▲

PLASTIC COATINGS
protective type offered in colors

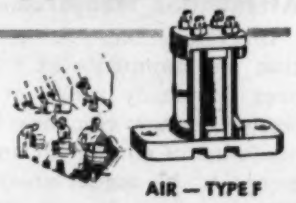
Choice of red, green or amber, in addition to previously available clear, is available to users of Dip Seal line of protective plastic coatings. The hot melt material is held at 350 to 360° F in electrically heated equipment which can be supplied. Finished tools and parts are dipped to acquire the coating. It sets in 35 seconds. Removal is by slitting and stripping off the 0.059-in. thick film. Flash point is 435° F. A thin film of protective oil is left on the work after coating is stripped. Made by **Dip Seal Plastics, Inc.**, Dept. NED, Rockford, Ill.

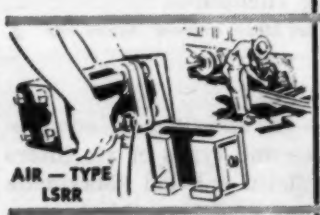
▲ For more details circle NED-993 J5 on enclosed inquiry slip ▲



CLEVELAND Air and Electric VIBRATORS

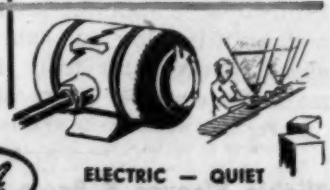
There's a Cleveland Vibrator for every bin and every material.





Vibrators to shake anything from a can of baby powder to a railroad car.

WRITE FOR OUR DETAILED INFORMATION.



ELECTRIC — QUIET

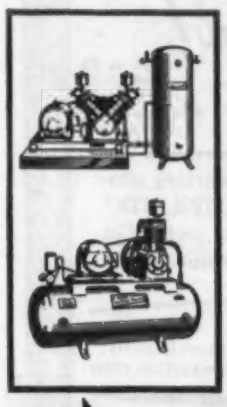
Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.
2744 Clinton Ave. • Cleveland 13, Ohio

▲ For more details circle NED-994 J5 on enclosed inquiry slip ▲

MORE FREE AIR PER HORSEPOWER

Kellogg-American



AIR COMPRESSOR PUMPS, ½ TO 20 HP
Engineered and precision built to give more *free air* (actual air delivered) per hp, Kellogg-American compressors assure maximum air delivery, efficiency and service life. Single or two stage, 1, 2 or 4-cylinder units available for pressures up to 200 psi; displacements to 105.9 c. f. m.

COMPLETE AIR COMPRESSORS, ½ TO 20 HP
Portable or stationary; skid, remote tank or tank mounted; electric motor or gas-engine-driven models permit you to select the most efficient, economical compressor for every job. Write Dept. ND-1 for Bulletin K-307.

FREE New slip-stick selector to help determine the right Kellogg-American air compressors for your needs. Send for yours on company letterhead today.

KELLOGG DIVISION
ROCHESTER 9, N. Y.

AMERICAN Brake Shoe COMPANY

Kellogg-American
½-20 H P AIR COMPRESSORS PAINT SPRAY EQUIPMENT

▲ For more details circle NED-995 J5 on enclosed inquiry slip ▲

PREVENT BURNS!

NEW! ADJUSTABLE swivelier COOLITES®

® Reg. U.S. Pat. Off.

...STAY COOL
Using 100-watt lamp

AT LAST!
Adjustable incandescent lighting units with metal shades that remain comfortable to the touch even after long hours of use with 100-watt lamp.

Ideal for use on lathes, millers, drill presses and other machine tools; on assembly benches and inspection tables, desks, drafting boards and business machines.

"NEVER GETS TOO HOT TO HANDLE"

"Stays Put ... At Any Angle!"

"SPOT THE LIGHT WHERE YOU WANT IT...

LIGHT THE SPOT WHERE YOU NEED IT."

• ALL WIRES ENCLOSED

TRADEMARK

For full information on Coolites, Fluorescent and Incandescent "Dextra-Lites" and other fine Swivelier industrial lighting units—

Write Dept. NED-9 for Bulletin 134.

SWIVELIER COMPANY, Inc.
43-34th St., Brooklyn 32, N. Y.
Showroom 30 Irving Place, New York, N. Y.

▲ For more details circle NED-996 J5 on enclosed inquiry slip ▲

Tempilstik° FOR ALL HEAT-DEPENDENT OPERATIONS

looks like a crayon... marks like a crayon... tells temperatures like a precision instrument!

Visit us at booth 1533 —Oct. 17-21 Nat'l. Metal Exposition —Philadelphia

Sixty-three different compositions enable you to determine and control working temperatures from 113° to 2000° F. TEMPILSTIK° marks on workpiece "say when" by melting at stated temperatures—plus or minus 1%.

ALSO AVAILABLE IN LIQUID AND PELLET FORM . . . WRITE ADVERTISING DIV. FOR SAMPLE TEMPIL° PELLETS . . . STATE TEMPERATURES OF INTEREST—PLEASE!

Tempil° CORPORATION
132 WEST 22ND STREET, NEW YORK 11, N. Y.

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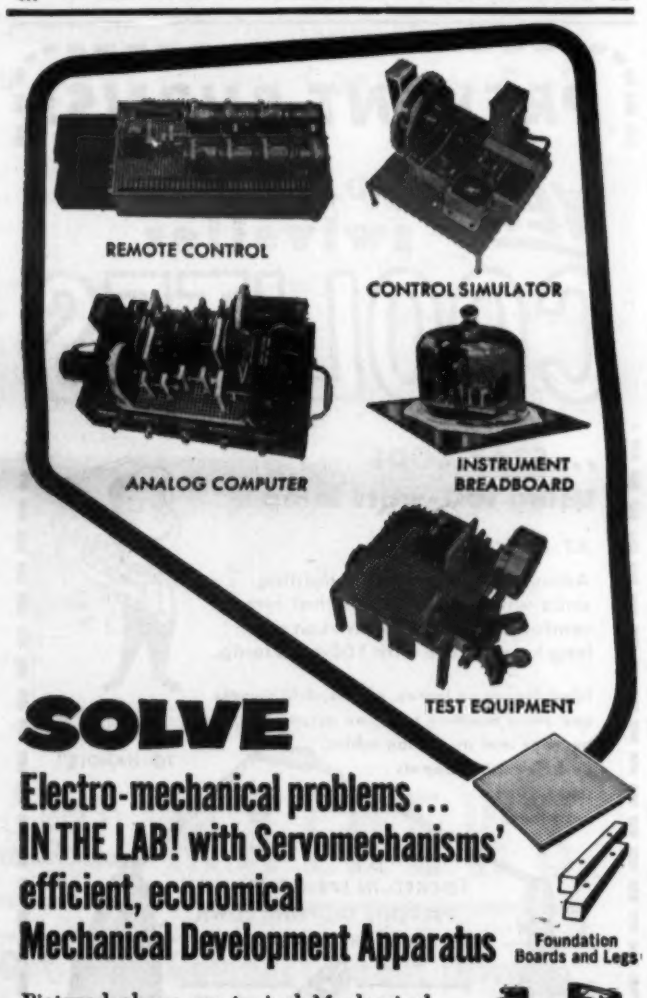
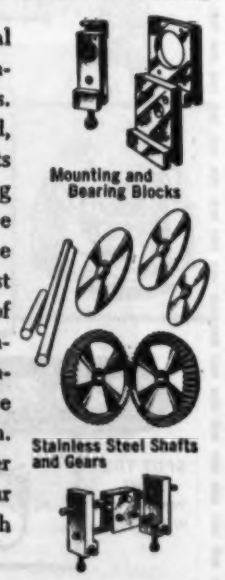


SOLVE
Electro-mechanical problems... IN THE LAB! with Servomechanisms' efficient, economical Mechanical Development Apparatus

Pictured above are typical Mechanical Development Apparatus (MDA) assemblies, complete with electrical components. MDA is an assortment of standardized, precision-built, mechanical components designed for the purpose of simulating instrument and control systems in the breadboard phase of development. The apparatus makes designing extremely fast and economical. An appropriate group of these versatile units can be quickly assembled into a desired mechanism. The components lend themselves to endless use and re-use due to flexibility of design. Only a small assortment is needed to cover a multitude of problems. Prove out your design, quickly and economically with these versatile "tools."



SERVOmechanisms INC.
For complete information write for catalog to... COMPONENTS DIVISION
625 Main Street
Westbury, L. I., N.Y.
C-555

▲ For more details circle NED-998 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Drivers, Wrenches & Adapters

Bergander Mfg. Co.—Twenty-one different types of serrated Gulmite tools for driving nuts, bolts and screws are detailed in illustrated brochure. Listed are the various sizes that are available to fit different makes of drivers, wrenches and drive adapters.

▲ For more details circle NED-999 J5 on enclosed inquiry slip ▲

Reamer Selector

Lavalle & Ide, Inc.—Complete information on all standard reamers, blanks and cutters are contained in 20-page illustrated "Comparative Reamer Selector." Data are arranged by decimal equivalents, so that one needs to look only at the size to get the price of a particular type and size of reamer.

▲ For more details circle NED-1000 J5 on enclosed inquiry slip ▲

Industrial Liquid Meters

Buffalo Meter Co.—Details of the simple single-piston line of Niagara meters for the volumetric measurement of practically all liquids are presented in illustrated catalog 36. Also described are the new exposionproof Electricontact registers, chemical meters and standard meters for noncorrosive service.

▲ For more details circle NED-1001 J5 on enclosed inquiry slip ▲

Industrial Wire Cloth

Pequot Wire Cloth Co.—Various kinds of industrial wire cloth in rolls and fabricated parts are listed in 16-page catalog 55. Information covers fabricating services, types of weaves, over 19 varieties of metals used, weights, market grades, wire gages and many tables and charts of mesh sizes.

▲ For more details circle NED-1002 J5 on enclosed inquiry slip ▲

Industrial Chilling Equipment

Cincinnati Sub-Zero Products—"Put Sub-Zero to Work" is title of 12-page bulletin 102 which illustrates seven models of chilling machines and four industrial temperature testing units. Chilling chambers range from 1 cu ft lab model to 10 cu ft production unit. Standard units offer choice of two temperature ranges: ambient to −70° F and − 70 to −150° F.

▲ For more details circle NED-1003 J5 on enclosed inquiry slip ▲

Seamless Stainless Tubing & Pipe

Babcock & Wilcox Co., Tubular Products Div.—Engineering information pertinent to use of stainless tubing and pipe is provided in 6-page bulletin TB-355. Properties are charted. Tubing sizes range from 0.405 to 8.625 in. OD and from 0.035 to 1.000-in. wall thickness.

▲ For more details circle NED-1004 J5 on enclosed inquiry slip ▲

Dry Fluid Drive

Dodge Mfg. Corp.—Selection information and recommended V-belt drives are given in 12-page bulletin A-640 on Flexidyne dry fluid drive. "Fluid" in the Flexidyne is heat treated steel shot contained in housing which is keyed to motor shaft. Advantages of drive include use of smaller motors, no slippage during running and overload protection.

▲ For more details circle NED-1005 J5 on enclosed inquiry slip ▲

Attenuation Measurements

Shielding, Inc.—A method that provides attenuation measurements in the average plant laboratory over frequency range of 100 kc to 1000 mc is described in new company literature. Method requires minimum of equipment and enables repeated measurements to be made which are in accord with latest Military specs for shielding enclosures.

▲ For more details circle NED-1006 J5 on enclosed inquiry slip ▲

Air Line Filters & Lubricators

Master Pneumatic, Inc.—In addition to comprehensive listing of many sizes and types of air filters and lubricators, 16-page bulletin entitled "Maximum Protection" points out savings made possible by correct air filtration and lubrication at every air drop ahead of every air tool. Hydro-Jector which automatically empties filters of sludge is shown.

▲ For more details circle NED-1007 J5 on enclosed inquiry slip ▲

Pliable Sleeves & Boots

A & A Mfg. Co.—Fourteen different designs for sleeves, boots, way protectors and related pliable parts are illustrated in data bulletin SPC-2. All designs in protective covers are fabricated to order from neoprene-base material.

▲ For more details circle NED-1008 J5 on enclosed inquiry slip ▲

WORK BOTH ENDS FROM THE MIDDLE with the NEW SPEEDLIFT { Speedways new, versatile portable power belt conveyor

There's no trick to working both ends from the middle with the NEW SPEEDLIFT Portable Power Belt Conveyor. It's designed to do this amazing job . . . and to keep costs down because it is low-priced and designed for economy of operation. You'll shave costs everywhere . . . assembly line, production line and materials handling line.

- VERSATILE—either end elevates, or it can be used horizontally from 22" to 5 feet off the floor.
- LIGHTWEIGHT—one man can move, adjust, set up and store it.
- ADAPTABLE—can be used in any position from level to 30° incline.

Learn how versatile . . . yet amazingly inexpensive it is. Write today for Bulletin F-11.

SPEEDWAYS CONVEYORS, INC.
202-208 Rhode Island Street, Buffalo 13, N. Y.
IN CANADA
Speedways Conveyors Ltd. 61 Walnut Street, Fort Erie, Ontario

▲ For more details circle NED-1009 J5 on enclosed inquiry slip ▲

SAFETY EYE WEAR with *real comfort!*

plus the factor which insures that workers will wear them. This modern all-plastic eyewear rests on the face in light-weight, pliable COMFORT.

Working for You to Make Safety Work

Write for complete information to

UNITED STATES SAFETY SERVICE CO.
Div. E-9 KANSAS CITY 4, MISSOURI

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PORTABLE MIXERS . . . offer ECONOMY

Operating expenses dip to a new low when you choose Portable Mixers from the complete Eastern Series. Available from 1/20 to 5 H.P. with a variety of speeds and motor enclosures. Your small initial investment pays rich dividends in economy.

For complete mixer selection information write for Eastern Catalog 510-A

Eastern INDUSTRIES, INC.
REGENT ST., E. NORWALK, CONN.

▲ For more details circle NED-1011 J5 on enclosed inquiry slip ▲

To Use this Self-Mailer . . . Just Fill It In, Fold, Seal and Mail . . . No Postage Needed

To Use this Self-Mailer . . . . Just Fill It In, Fold, Seal and Mail . . . . No Postage Needed

FOLD • SEAL • MAIL

Have You Filled In Your Name and Address?

FOLD TO THIS LINE

To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
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4	54	104	154	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154
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9	59	109	159	209	259	309	359	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159
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18	68	118	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168
19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

FOLD TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171
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27	77	127	177	227	277	327	377	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177
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32	82	132	182	232	282	332	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182
33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183
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42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
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44	94	144	194	244	294	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194

FOLD ON THIS LINE

45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
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49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

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—USE THIS SLIP FOR SEPTEMBER 1955 ISSUE ONLY—

J-5

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

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Because we must check the distribution of NEW EQUIPMENT DIGEST at least once each year, please fill-in completely the coupon below. If you returned one of our regular mail questionnaires or an inquiry within the past year, you may omit this. The information you give will be held confidential and used only for verifying or correcting our circulation mailing list.

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Saves Soldering time!

KESTER FLUX-CORE SOLDER is a famed *time-proved time-saver* on every soldering operation, many of them just like yours. If you, too, are interested in increased speed and efficiency, now's the time to switch to Kester . . . the right name to remember for top quality solder.

"SOLDER . . . Its Fundamentals and Usage," a valuable 78-page Kester textbook. Send for your free copy today.

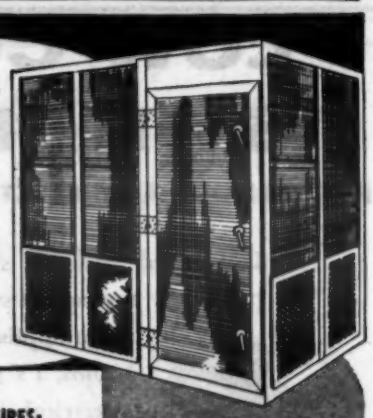
KESTER SOLDER

COMPANY 4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

▲ For more details circle NED-1012 J5 on enclosed inquiry slip ▲

"AMERICAN 40" (pat. pending)

Lindgren SCREEN ROOMS



NEW, IMPROVED "AMERICAN 40" FEATURES:

- New extra-strong floor — cross beams every 12".
- 1" plywood flooring — covered with ⅛" linoleum.
- New pat. pend. door — completely leak-proof.
- New pat. pend. air intake — no leaks.
- New pat. pend. service door — slides inside screen panels.
- All rooms have expanded metal protection on outside.
- THE BEST NAMES IN AMERICAN INDUSTRY USE LINDGREN PORTABLE, TRUE DOUBLE SHIELDED SCREEN ROOMS.
- (Names of companies supplied on request.)

THE FINEST SCREEN ROOMS ON THE MARKET TODAY . . . At the Lowest Prices!

GUARANTEED HIGHEST ATTENUATION RATINGS
146 DB-Copper
128 DB-Bronze

Meets U. S. Gov't performance specifications

WRITE FOR ILLUSTRATED BOOK
Contains specs., performance charts

ERIK A. *Lindgren* & ASSOCIATES
Established 1939

4515-17 N. Ravenswood Ave., Dept. N9 Chicago 40, Ill. SUnnyside 4-0710

▲ For more details circle NED-1013 J5 on enclosed inquiry slip ▲

New Processes & Materials

VINYL PHOTOGRAPHIC FILM developed by heating, image extends through film thickness

Photographic reproductions of unusual durability can be made with Calimar, a picture forming plastic in which the developed image extends through entire film thickness. Calimar consists of organosol paste based on Bakelite vinyl resin and containing light-sensitive, dye-forming and catalytic chemicals. Film is exposed through a photographic negative to ultra-violet light for 1 minute and is developed by heating it evenly for about 6 minutes at 320° F.

Depth of image, combined with resistance of vinyl resin base to wear, moisture and chemicals, enables Calimar to be used to produce highly durable decorative film, maps, blueprints and line drawings, as well as license plates, floor tiles and display items. Image is brownish in tone and is resistant to sunlight bleaching. Long strips of decorated film could be produced in present installations for curing plastisol-organosol film coatings. Film itself can vary from translucent to opaque, with or without tinting colors, and can vary widely in flexibility. Calimar is available now for experimental purposes. Developed by **Ferro Chemical Corp.**, Dept. N, 450 Krick, Bedford, O.

▲ For more details circle NED-1015 J5 on enclosed inquiry slip ▲

DROP HAMMER DIES made from resilient epoxy resins

Drop hammer dies suitable for forming duct halves, beads, angles, channels and shallow pan sections are constructed of Kirksite bodies capped with 1-in. layer of epoxy resin compounds. Die face is composed of rigid epoxy resin containing a wear-resistant filler such as aluminum oxide. For the punch face, a resilient compound based on combination of liquid epoxy resin with liquid polysulfide polymer is used. It cures at room temperature, in presence of amine catalyst, to a tough resilient material capable of absorbing impact stresses. Punch faces will produce aluminum and steel parts with minimum of wrinkling. Dies were developed by Republic Aviation Corp. and use polysulfide polymers made by **Thiokol Chemical Corp.**, 776 N. Clinton Ave., Trenton 7, N. J.

▲ For more details circle NED-1016 J5 on enclosed inquiry slip ▲

HYDRECO *Pressure-Balanced* Gear-Type Fluid Motors are built better to last longer, to operate efficiently at all speeds and to stand up under gruelling, shock-load service. HYDRECO Fluid Motors start, stop and reverse instantly, operate at an infinite variety of speeds, can even be stalled without damage . . . they are compact and efficient and develop high torque on starting.

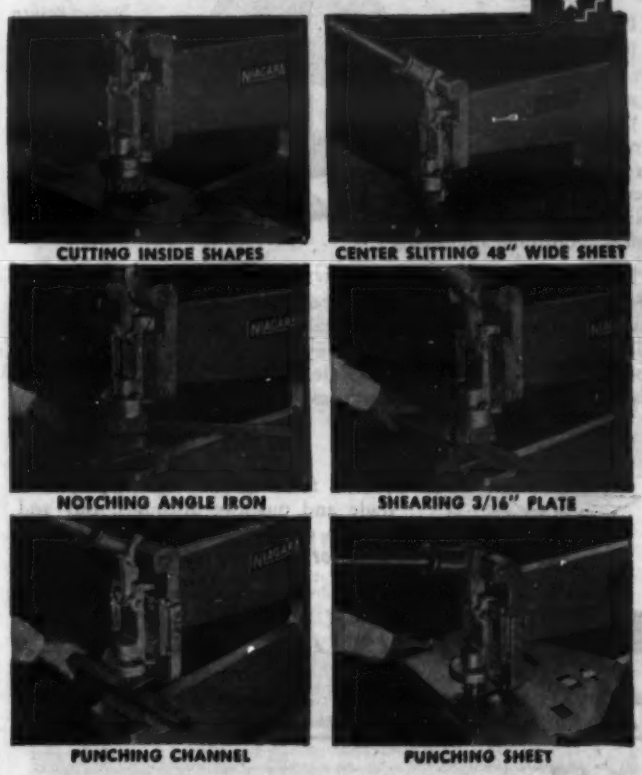
Find out why the makers of America's leading hydraulically-equipped Materials Handling, Earth Moving and Industrial Machinery specify HYDRECO Fluid Motors for Rotary Power Transmission.

Write for HYDRECO Bulletin No. 139-A for full details on Constant Torque (Variable Horsepower) Fluid Motors. It's Free!

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1108 EAST 222nd STREET • CLEVELAND 17 • OHIO
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.

▲ For more details circle NED-1017 J5 on enclosed inquiry slip ▲

look at a few of the many jobs this one machine can do for you


CUTTING INSIDE SHAPES
CENTER SLITTING 48" WIDE SHEET
NOTCHING ANGLE IRON
SHEARING 3/16" PLATE
PUNCHING CHANNEL
PUNCHING SHEET

IT'S THE NEW NIAGARA NO. 5-24 LEVER PUNCH & SHEAR

Yes, this versatile new machine can do all these things and more. With a 5-ton capacity and a 24-inch throat, it is ideal for diversified operations in industrial sheet metal shops, maintenance departments, experimental and model shops.

Equipped (optionally) as a punch or shear or both, it is readily converted from one to the other. A large selection of punches and dies is available for handling a tremendous variety of work.

HERE'S THE COMPLETE STORY
Bulletin 79-B contains detailed information and specifications. Write for your copy.

NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N. Y.
DISTRICT OFFICES:
Buffalo • Cleveland • Detroit • New York • Philadelphia
Dealers in principal U.S. cities and major foreign countries

NIAGARA
America's Most Complete Line of Presses, Shears, Machines and Tools for Plate and Sheet Metal Work

▲ For more details circle NED-1018 J5 on enclosed inquiry slip ▲

from any angle . . .

FLEXANGLE
UNIVERSAL SLOTTED ANGLE SYSTEM

makes the most of space . . . saves time, money, and labor!

GENERAL PURPOSE RACK showing use of FLEXANGLE bolt direct type shelving.

- 40 pre-drilled bolt holes per foot
- cutting arrows at 3" intervals for easy measuring
- can be assembled with a wrench & cutter
- PRE-PAINTED
- weatherproof, rustproof

Made to FLEXANGLE specifications by the Bethlehem Steel Company.

Distributors' inquiries invited.

The newest angle on labor-saving, cost-saving construction of storage units, platforms, building framework, etc. is FLEXANGLE! It makes strong, economical units to fit your needs exactly . . with nothing more than a rough sketch as a guide. And every piece is re-usable so you can store FLEXANGLE compactly and use it again and again.

FLEXANGLE is the only product of its type providing three bolts in bearing at every adjustment point. Stronger! More rigid! *Write for detailed bulletin today;*

FLEXANGLE CORPORATION
SAUGATUCK, CONNECTICUT
(formerly Flowstrut Corp., 137 E. 44th St., New York 17)

▲ For more details circle NED-1014 J5 on enclosed inquiry slip ▲

NEW

MAKE ANY BOARD an Adjustable DRAWING TABLE with

The Safe-Lock All-angle DRAWING STAND Pat. Pend

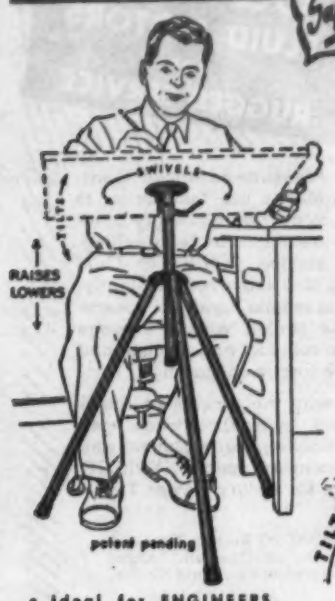


TABLE MODEL #713 only $7.95 ea. Use on any table or desk.

FLOOR MODEL #714 only $14.95 ea. Adjustable to sitting or standing height.

- Complete with screws for mounting to your board (up to 20" x 30").
- Locks in desired position.
- Non-slip rubber tipped legs.
- Easy to carry or store.
- Hand-polished precision machined aluminum.

• Ideal for ENGINEERS, DRAFTSMEN, IDEA MEN, ARTISTS, STUDENTS, etc.

ORDER TODAY

ARSCO AMERICAN INC., 3309 Edson Ave., New York 69, N.Y.

▲ For more details circle NED-1019 J5 on enclosed inquiry slip ▲

NEW 'SHEAR-SEAL' AIR VALVE

Foot Operated 4-Way Valves With or Without Spring Return

DESCRIPTION: Foot operated 4-way valves for up to 250 P.S.I. air service. Port sizes ¼" and ⅜". With or without spring return (spring return to reverse or to center). Made entirely from corrosion resisting materials; stainless steel, bronze and aluminum.

FEATURES: Millions of service-free cycles even on *unlubricated* air; non-corrosive materials prevent galling or binding. Leak-proof to the end because "Shear-Seals" improve with use, cannot be scored or held open by dirt or pipe scale. Excellent throttling characteristics. Flexibility of porting reduces installation cost.

COST: $24.50 list price for a ¼", $25.50 for a ⅜" valve, less the usual trade and quantity discounts. Buy and try one on a money back guarantee or write for complete literature 2801.

BARKSDALE VALVES

5125 ALCOA AVENUE, LOS ANGELES 58, CALIFORNIA

▲ For more details circle NED-1020 J5 on enclosed inquiry slip ▲

Loosens FROZEN PARTS FAST!

Handy Won't Leak Shoots 3 Feet

Same formula as famous Kroil that has pleased 14,000 industrial users for 10 years or more.

Loosens stuck together metal parts, bushings, bearings, bolts, screws, pipe, etc., "anything from an embalmer's needle to a bulldozer," one customer said.

"Like an extra employee," said another. "Turned rust into mush, put $50,000 equipment back to work."

You too can get these results.

Try Aerokroil at our risk. Send $2 cash, and we'll pay postage.

12-OZ. CAN $2. F.O.B. NASHVILLE CASE OF 12 $14.75

KANO LABS. 1074 S. Thompson Lane Nashville 11, Tenn.

▲ For more details circle NED-1021 J5 on enclosed inquiry slip ▲

New Literature & Catalogs

Masonry Saw Blades

Carborundum Co.—Marking its entry into the masonry saw blade field, 4-page illustrated bulletin A-1308 describes the Niagara line of abrasive blades for cutting brick, concrete, stone, tile, plasterboard and other masonry products. Types are available for wet or dry cutting as well as in fiber glass reinforced types.

▲ For more details circle NED-1022 J5 on enclosed inquiry slip ▲

Carbide Surfacing Electrodes

Coast Metals, Inc.—"Tungsten Carbide Hardsurfacing" is title of 4-page illustrated bulletin which tabulates alloy designation, available diameters, method of application and mesh size of tungsten carbide hardsurfacing weld rods.

▲ For more details circle NED-1023 J5 on enclosed inquiry slip ▲

High-Temperature Insulated Conductors

Aero Research Instrument Co.—Hi-Temperature swaged magnesia insulated conductors for use in all types of equipment and machines is subject of illustrated bulletin 6A. Table of specifications aids in design and application.

▲ For more details circle NED-1024 J5 on enclosed inquiry slip ▲

Paint Spraying Equipment

Sharpe Mfg. Co.—A completely redesigned line of paint spraying equipment, including spray guns, compressors, accessories and safety devices, is described in thumb-indexed illustrated catalog.

▲ For more details circle NED-1025 J5 on enclosed inquiry slip ▲

Flexible Shaft Machines

Niles-Bement-Pond Co., Pratt & Whitney Div.—Kellerflex flexible shaft machines are made in a complete range of types and sizes for filing, polishing, burring, sanding, grinding and wire brushing applications. Complete specifications are given on machines with variable and constant output speeds up to 12,000 rpm as well as on accessories, motor couplings and mill length cable in illustrated 24-page catalog 580.

▲ For more details circle NED-1026 J5 on enclosed inquiry slip ▲

Packaged Steam Generators

Foster Wheeler Corp. — Capacities ranging from 10,000 to 46,000 lb of steam per hr are available in new series of packaged steam generators described in 16-page illustrated catalog AG100. Operating pressures range up to 1200 psi with up to 271° F superheat. Gas, oil and gas-oil type firing is available.

▲ For more details circle NED-1027 J5 on enclosed inquiry slip ▲

Foam Fire Extinguishing

American LaFrance Corp.—"Foamite Airfoam" is title of a 36-page illustrated booklet about fire extinguishing equipment for combatting various types of flammable liquid fires. Both portable and semi-portable equipment as well as permanently installed foam fire extinguishing systems are described.

▲ For more details circle NED-1028 J5 on enclosed inquiry slip ▲

Fasteners for Resistance Welding

Ohio Nut & Bolt Co.—Hundreds of different sizes and types of fastening devices and formed parts for application by resistance welding are described and shown in 32-page illustrated "Fiftieth Anniversary Catalog No. 55." Data are given on such fasteners as nuts, brackets, screws and pins for projection and spot welding application. Also presented are details of projection welding pads, knobs, bosses and handles, as well as adjusting, clamp and thumb screws and adjustable feet. Advantages and procedures to be used are outlined.

▲ For more details circle NED-1029 J5 on enclosed inquiry slip ▲

Molding Temperature Control

Tempil Corp.—"Molding Temperature Control with Temperature Indicating Crayons" is a reprint of a technical article by M. Marsh. Such procedures as compression molding, postforming, shell molding, polyethylene coating, and nylon and rayon pressing are considered.

▲ For more details circle NED-1030 J5 on enclosed inquiry slip ▲

Friction Clutch

Link-Belt Co.—Mounting sleeve, mounting ring and coupling types of improved friction clutches for power transmission applications are described in 8-page illustrated catalog 2637. Capacities range up to 170 hp at typical industrial speeds.

▲ For more details circle NED-1031 J5 on enclosed inquiry slip ▲

NEW

Weld-Bilt automatic CONVEYOR-LIFT ELEVATORS speed your production flow!

One of three Weld-Bilt elevators in the automatic plant of a leading Television Manufacturer

Weld-Bilt Products Include:

Here's a great time and man-saver where production flow demands *multiple-level* conveyor systems . . . It's a new Weld-Bilt development in AUTOMATIC Conveyor-Lift Elevators. Lifts or lowers packages or parts from one level to another, automatically selecting and lifting certain packages, passing others, if desired. Power rollers on lifting platform move load off in any required direction. All this is done without manual attention, to keep your production moving swiftly, without interruption.

The Weld-Bilt Automatic Conveyor-Lift can be built to any designed capacity, any height, with controls to handle any situation or need. Write today for details — or the services of a Weld-Bilt materials handling engineer. You'll save money, time, labor. Let us prove it!

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 WATER STREET, WEST BEND, WISCONSIN

▲ For more details circle NED-1032 J5 on enclosed inquiry slip ▲

LOW COST SWITCHES

FOR ALMOST ANY ELECTRICAL PRODUCT

Low-priced Stackpole slide switches provide practically any needed switching arrangement for appliances, instruments, radios, TV sets, small motors and electrical toys. They're sturdy, fully dependable, small in size.

22 STANDARD TYPES

Types from .5 to 3 amperes A.C. Underwriters approved. Write for Slide Switch Bulletin RC-9B to:

Electronic Components Division
STACKPOLE CARBON CO.
St. Marys, Pa.

STACKPOLE

Fixed and Variable Resistors • Iron Cores • Ceramag • ferromagnetic Cores • Molded Coil Forms • "GA" low value Capacitors

▲ For more details circle NED-1033 J5 on enclosed inquiry slip ▲

PORTABLE

SAND BLAST GUN

A COMPLETE SAND BLAST UNIT only $27.50

Operates on 60 to 150 P.S.I. Handles all types of abrasives

A REAL PERFORMER FOR THE SHOP FOR THE LAB

The "Port-a-Blast" is a complete sand blast unit. Simply fill the container with the abrasive material, connect it to your air line and it is ready to go to work.

It is ideal for sand blasting small parts, for removing rust, scale, paint and dirt from those hard to get at places; for texturing and etching metals, glass, ceramics, plastics, wood, etc.

It has solved many complicated cleaning problems in all types of manufacturing plants, and laboratories throughout the United States and Canada.

ORDER ONE TODAY! PAYS FOR ITSELF QUICKLY!

LINDBERG PRODUCTS COMPANY
BOX 885-D LOS GATOS, CALIFORNIA

▲ For more details circle NED-1034 J5 on enclosed inquiry slip ▲

Now... TWO NEW Shallow TYPES!

R&S FLOOR BOXES

2519

2510

... Sized to Meet Modern Construction needs.

Two important newcomers have now joined the complete line of R & S Floor Boxes... No. 2519 round and No. 2510 rectangular! Both are the new shallow types, sized to meet many modern Industrial and Commercial construction needs.

In Russell & Stoll Floor Boxes, you'll always find dependability at its best. Trouble-free service life is achieved through the finest of materials, workmanship and design features. Stand-out features include recessed cover flanges, adequate wiring space, interchangeable round or rectangular covers, adjustable leveling screws and heavy watertight gaskets. WRITE FOR BULLETIN 4A. E-3

A FAMOUS FAMILY... A wide choice!

RUSSELL & STOLL COMPANY, INC. • 125 BARCLAY STREET, NEW YORK 7, N.Y.

RUSSELL & STOLL

PRECISION BUILT ELECTRICAL EQUIPMENT—SINCE 1902

▲ For more details circle NED-1035 J5 on enclosed inquiry slip ▲

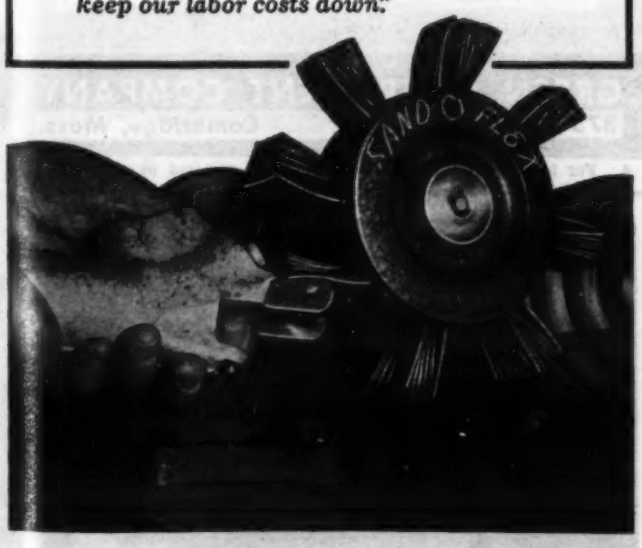
SAND-O-FLEX

"helps us do an expert low-cost deburring job."

says R. S. Wright, owner of Wright Deburring Company, El Segundo, Calif.

"Deburring is our business," *states Wright, "and we have to deburr and clean up metal parts faster and cheaper than the parts manufacturers can do it themselves or we couldn't stay in business. It must pay them to ship their parts to us for deburring rather than do this job in their own plants.*

"We use Sand-O-Flex on many different kinds of castings and machined parts. We find it does an excellent job and helps us keep our labor costs down."



There you have it from a man whose entire plant is devoted to *one operation only*—deburring metal parts. He uses Sand-O-Flex on all types of materials (steel, chrome, aluminum, brass, magnesium, etc.), especially on those with irregular shapes. Sand-O-Flex is attached to a bench arbor for deburring small parts and to a portable electric drill for larger pieces. Sand-O-Flex holds close tolerances when necessary, never digs into the metal or "flats" curved surfaces. Investigate Sand-O-Flex for your complex deburring problems. Write for catalog today giving prices and description of all four Sand-O-Flex models.

MERIT PRODUCTS, INC.

4023 IRVING PLACE, CULVER CITY, CALIFORNIA

▲ For more details circle NED-1036 J5 on enclosed inquiry slip ▲

New Processes & Materials

RESIN COATING TRIAL KIT
protects against humidity, corrosion

A trial kit of Thick-Coat resin coating product for humid and corrosive atmospheres is now offered for testing purposes. It contains two quarts of Thick-Coat, one quart of Pennsalt Lock Prime and a quart of Pennpaint thinner. Three-coat system of primer and two top coats builds up minimum of 6 mils dry film thickness to protect new or corroded metal, concrete and wood surfaces exposed to fumes, corrosive atmospheres and spillage of destructive chemicals. Coating is brush, roller or spray applied and is offered in white, green slate gray, silver gray and black. Low cost kit is offered by **Pennsylvania Salt Mfg. Co.**, 3 Penn Center Plaza, Philadelphia 2, Pa.

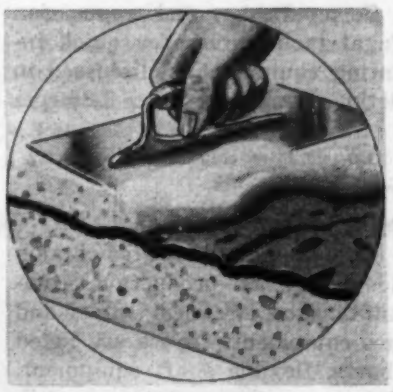
▲ For more details circle NED-1037 J5 on enclosed inquiry slip ▲

STEEL TUBING
inside has mirror-like finish

Mirror-like inside surface finish of drawn-over-mandrel grade of cold-drawn electrically welded steel tubing makes it suitable for use in many applications without machining. It can be used without honing for hydraulic and pressure cylinders of all kinds. Tubing can carry heavy torsion loads, resists high frequency vibration and has a favorable weight-to-strength ratio. Production is in sizes from ¾ to 2¼ in. OD, with wall thicknesses ranging from 0.035 to 0.134-in. Sink drawn tubing (not drawn over a mandrel) has minimum tensile strengths up to 70,000 psi and minimum yield strengths to 55,000 psi, depending upon size and carbon content. Drawn-over-mandrel type has minimum tensile strengths up to 70,000 psi and minimum yield strengths up to 65,000 psi. Made by **Jones & Laughlin Steel Corp.**, 456 Liberty Ave., Pittsburgh 30, Pa.

▲ For more details circle NED-1038 J5 on enclosed inquiry slip ▲

CONCRETE BOND
joins cement, plaster, wood, etc.



Developed as an improved method for applying Floorstone resurfacer, F. C. P. Bond provides quick, easy way to level concrete surfaces, ceramic tile, wood floors and plaster walls. This liquid can also be used to bond new concrete to old concrete and new plaster to old plaster. It is simply brushed on the surface to be repaired, and the leveling or repair medium is applied. It resists acids and alkalies and withstands temperatures from freezing to 350° F. Coverage is 300 sq ft per gal. Made by **Tamms Industries**, 228-30 N. LaSalle St., Chicago, Ill.

▲ For more details circle NED-1039 J5 on enclosed inquiry slip ▲

COLORED ALUMINUM STRIP
has nontarnishing anodized finish

Imported, continuously anodized and dyed, aluminum strip is now available in coils. Continuous anodizing process is reported to provide a nontarnishing finish which is uniform throughout the coil, without visible electrode contact marks. Coils are adapted to automatic feed so that roll forming and stamping operations are simplified. Metal can be dyed in many colors, including gold and brass tones, and is available in commercial coils in gages ranging from 0.003 to 0.020-in. and widths from ¾ to 20 in. Present production is limited to 2S and purer alloys, including 99.99 per cent aluminum. Distributed by **Fromson Orban Co.**, Dept. A, 261 Madison Ave., New York 16, N. Y.

▲ For more details circle NED-1040 J5 on enclosed inquiry slip ▲

CHICAGO TRAMRAIL TRAK-RAK CRANE

triples storage capacity at Oneida Ltd.—cuts 2½ hour handling time to 30 minutes—saves building an additional $60,000 warehouse.

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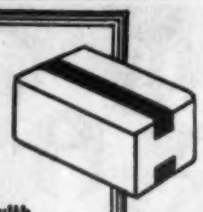

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New Literature & Catalogs

Cutting & Grinding Procedures

Master Chemical Corp.—56-page illustrated booklet not only describes Trim cutting and grinding fluid, but is also a reference manual on machining and grinding procedures. Use of coolants to obtain optimum tool life and best working conditions is discussed. Other subjects covered include the prevention of rust, gumming and offensive odors; anti-welding; cooling; surface tension and chip settling.

▲ For more details circle NED-1047 J5 on enclosed inquiry slip ▲

Photoelectric & Timing Controls

Autotron Co.—Photoelectric, photoelectric timing and electronic timing controls are subject of illustrated catalog 55. Performance and application data are given on range of types and sizes to fill such needs as loop, door, size, bin level, counting, alarm, cut-off and safety controls.

▲ For more details circle NED-1048 J5 on enclosed inquiry slip ▲

Propeller Fans

Hartzell Propeller Fan Co.—40-page illustrated Propeller Fan catalog A-109A contains complete specifications and performance data on belt-drive, Bi-Pass duct, Cool Blast, duct, extension shaft, high pressure, Lo-Noise, multiblade, panel, pulley drive, reversible, single-propeller, two-propeller and utility fans. Also covered are intake air units, unit heaters and propeller fan accessories.

▲ For more details circle NED-1049 J5 on enclosed inquiry slip ▲

Conveying & Log Handling Equipment

Electric Steel Foundry Co.—Sawmill equipment designed to fill the needs of every operator is described in illustrated 24-page catalog 148-A. Data are given on conveyor equipment such as chain, flights, sprockets and drums, as well as on log haul chairs, sprockets, drums and slip liners, return rails, nigger bars, carriage wheels, hog rotor, refuse chain and spiked rolls.

▲ For more details circle NED-1050 J5 on enclosed inquiry slip ▲

Drafting Equipment

Frederick Post Co.—32-pages, crammed with information on a complete line of drafting equipment, comprise illustrated catalog. Data serve as a buying guide for drafting machines, drawing boards, T-squares, parallel rules, triangles, templates, curves, lettering aids and lamps. Described also are drawing outfits, kits and stands.

▲ For more details circle NED-1051 J5 on enclosed inquiry slip ▲

Tachometers

Boulin Instrument Corp.—Design and application of stationary centrifugal tachometers for quick installation on any rotating equipment is discussed in 4-page illustrated bulletin. Ranges are from 3-36 rpm to 1000-12,000 rpm.

▲ For more details circle NED-1052 J5 on enclosed inquiry slip ▲

Safety & Maintenance Equipment

Martindale Electric Co.—68-page illustrated catalog No. 30 describes wide range of production, commutator and motor maintenance, electrical, safety and mechanical maintenance equipment. Specs are listed for rotary files and burrs, flexible shaft equipment, mounted grinding points, saws, commutator reconditioning tools, motor rebuilding equipment, electrical instruments, respirators, gear and wheel pullers, vacuum cleaners and blowers, and stop watches.

▲ For more details circle NED-1053 J5 on enclosed inquiry slip ▲

Fluorescent Lamp Ballasts

Universal Mfg. Corp.—Complete line of normal and high power factor, Rapid-Start, Slimline, preheat and Trigger-Start ballasts for use in fluorescent lamp fixtures is detailed in 8-page illustrated catalog UMC-7-55. Full specifications and wiring diagrams aid in selecting the proper size and type of unit.

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How to Machine Aluminum

Kaiser Aluminum & Chemical Sales, Inc.—Technical data, recommended procedures and tooling information on the production of aluminum parts on automatic screw machines is described in detail in 52-page illustrated handbook "Machining Kaiser Aluminum." Guidance is provided on the various types of automatic screw machines, machining speeds and feeds, and cutting fluids. Tables, formulas, and weight vs. number-of-parts nomographs add to usefulness of this book.

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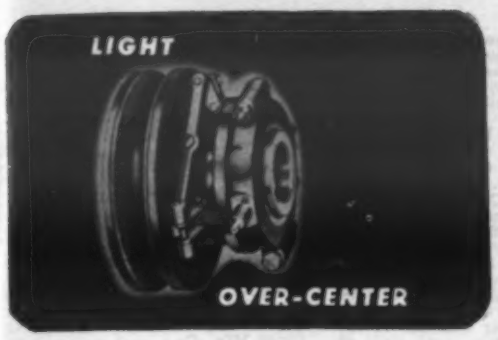

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For more details circle NED-1061 J5 on enclosed inquiry slip

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For more details circle NED-1062 J5 on enclosed inquiry slip

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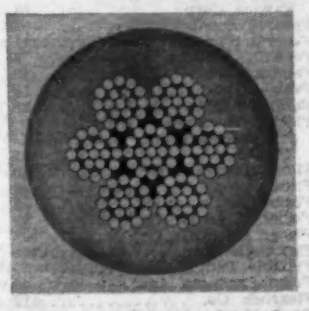
strengths from 480 to 7000 lb



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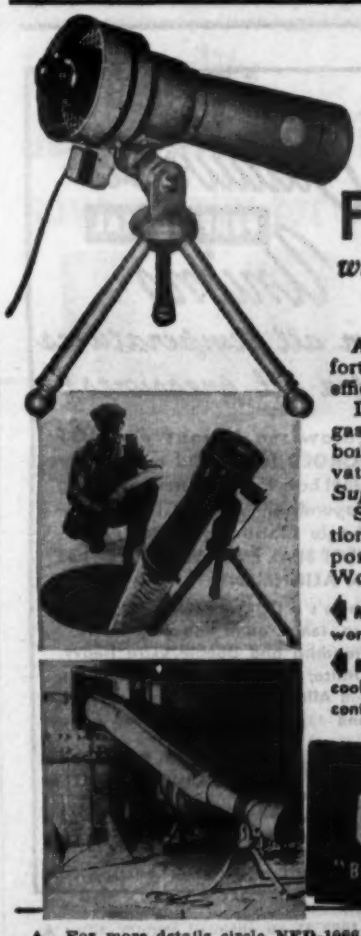

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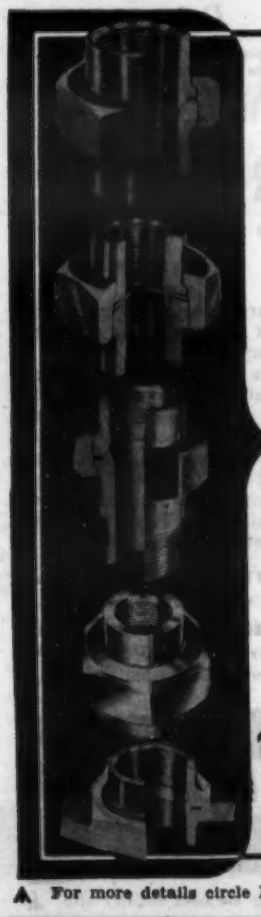

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Stearns 2-Coil Magnetic Pulley

Boosts Tramp Iron Removal ...Cuts Pulley Costs

Stearns powerful new magnetic pulley gives exceptional tramp iron removal by blanketing the entire load mass. Here's why —

New 2-coil design produces a magnetic field that is deepest at the center of the conveyor belt where load is heaviest. That's why smaller 2-coil pulleys costing less, can now be used on many jobs without altering standard conveyor practices for belt speed, etc. Pulley fits right in — makes it easy to select.

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Send for new Stearns bulletin 303-C. Simplified pulley selection method* tells you how to choose a magnet pulley yourself — and be right. 1105

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MAGNETIC EQUIPMENT FOR ALL INDUSTRY

STEARNS MAGNETS

STEARNS MAGNETIC, INC., 653 S. 28th St., Milwaukee 46, Wisconsin

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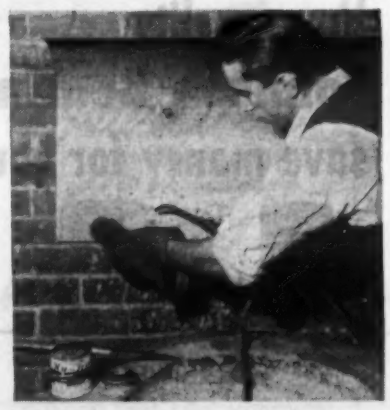
TINS AS IT CLEANS METALS



Hy-Tin can be applied by steel wool, damp cloth, or brush.

Forming a strong bond under the most adverse conditions this new solder tins and cleans in one application. A paste high in powdered solder content suspended in a fast working flux, it clings like soft butter making it a simple, easy job to sweat copper pipe and fittings, steel water pipes, repair stainless steel equipment and scored cylinders or to tin bearings before babbitting. Works easily in either horizontal or vertical position on all metals—Cast Iron, Monel, Stainless Steel, Cast Steel, Copper, Brass, Galvanized and Lead Coated Steel. There is no metal and flux separation which usually requires constant mixing or causes sputtering when applied to heated metal. Material will not dry and cake when exposed to atmosphere. Coverage is 25 square feet per pound.

Hy-Tin is guaranteed and is available in 2 lb. cans at $4.00 each (10% discount on 6 can lots) f.o.b. **Farrelloy Co.,** 1246 North 26th St., Phila., 21, Pa. *Advt.*

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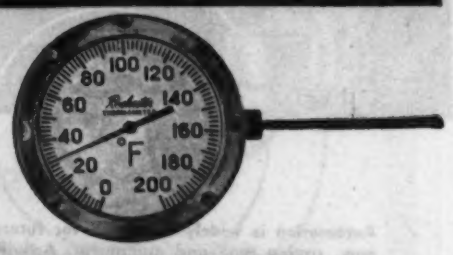

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Rochester MANUFACTURING COMPANY, INC.

DIAL THERMOMETERS · GAUGES · AMMETERS

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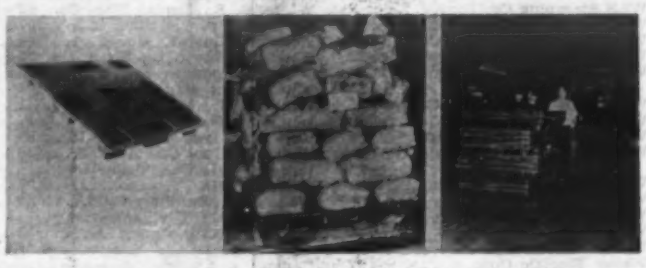
one-piece Fiberglas-reinforced type has high strength, stacking ability

This materials handling pallet weighing only 28 lb is molded of Bakelite polyester resins reinforced with Fiberglas. Units have nine hollow legs spaced to



allow four-way fork-truck approach. Resting on outside legs, pallet will support working load of 3000 lb, or 200 lb per sq ft, as shown in center photo. With hollow legs nesting, 100 pallets stack to height of only 7 ft 8 in. and occupy only 102 cu ft of storage space (right photo).

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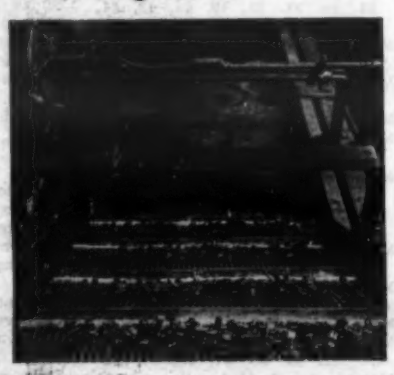
QUENCHING OIL
provides fast cooling rates



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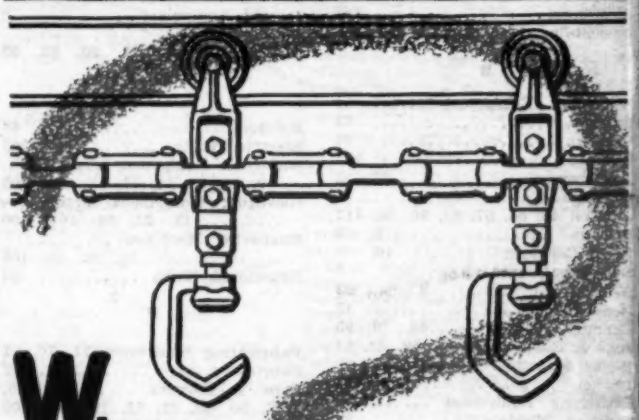

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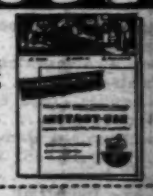

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